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**COMPARATIVE CHARACTERISTICS OF THE HEREDITARY LOAD OF
HIV-INFECTED INJECTING DRUG USERS AND THEIR SPOUSES**

Introduction. Hereditary factors play a considerable role in the etiopathogenesis of the psychoactive substance dependence. The facts of alcoholism "accumulation" in the patients' families have been described, the risk increase of alcoholism and drug addiction in hereditary tainted families has been shown. A lot of authors suggest existence of the biological predisposition to dependence fixed at the genetic level. The objective of the present research was to study possible accumulation of mental and narcological diseases in the families of HIV-infected injecting drug users as well as in the families of their spouses.

Materials and methods. The subject of the research concerned the first-degree relatives (excluding children) of 113 HIV-infected injecting drug users (proband) and their spouses. The clinical-psychopathologic and clinical-genealogical study methods were used in the work. While estimating mental and behavioural disorders the criteria of the ICD-10 (International Classification of Diseases) were used. On the result

statistical processing for estimation of the average value validity the Student's t-test was applied.

Results. The clinical-psychopathologic examination of the fathers, mothers and siblings of both probands (without division according to the sex) and their spouses proved that they had the following disorders: mental and behavioural disorders due to use of alcohol; behavioural disorders due to use of opiates; depressive episodes; recurrent depressive disorders; somatization disorders; hysterical personality disorders. The results of the clinical-genealogic study proved that practically all (370 persons) the first-degree relatives of the probands (excluding children) suffered from narcological (202 persons, 54,6%) and mental (172 persons, 46,5%) diseases. In some cases comorbidity could be observed. Among the first-degree relatives (354 persons) (excluding children) and probands' spouses the drug addiction was observed in 199 persons (56,2%) and mental disorders in 70,1% of cases that 1,3 times exceeded the total number of the observations testifying to combination of pathologies.

Conclusions. The data of the comparative analysis show that the accumulation degree of narcological diseases in the fathers, mothers and siblings of the probands does not statistically significantly differ from that of their spouses while the accumulation of mental diseases among the first-degree relatives (excluding children) of the probands' spouses is statistically significantly higher than of the probands themselves that proves existence of the marriage assortativity of the type “proband-spouse” and that the proband spouses represent a risk group of narcological and mental diseases.

Key words: clinical-genealogical study, HIV-infected injecting drug user (proband), probands' spouses, first-degree relatives.

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SENSIVITY TO ANTISEPTICS MICROFLORATHAT EXCRETED FROM ORAL CAVITY AND THROAT OF THE CHILDREN

Introduction. To date, the infection of the mouth cavity and throat is a common pathology among patients of different age groups. At present, practicing physicians give the increasing preference to antiseptic topical treatment of inflammatory diseases of the mouth and throat. *Objective:* To investigate and compare the antimicrobial activity of decametoxine and chlorhexidine digluconate on microorganisms that colonize upper respiratory airway in children.

Materials and methods. We studied 20 children with diseases of mouth and throat (9 boys, 11 girls) aged 3 months to 9 years. We inoculated the studied material, identified the isolated cultures of microorganisms, and determined the sensitivity of selected microbial cultures to 2% chlorhexidine digluconate and 1% decametoxine solutions. The comparative evaluation of the sensitivity of microorganisms to study drugs was performed under criteria of minimum bacteriostatic (MBsC) and bactericidal (MBcC) drug concentration measured in mg/ml.

Results. A 2 % chlorhexidine digluconate solution has higher antimicrobial activity against a wide range of opportunistic pathogens that colonize the mouth and throat compared to decametoxine: *S. epidermidis*, *S. aureus* and *S.saprophyticus* were characterized by high sensitivity to chlorhexidine digluconate (MBcC – 1.76 ± 0.58 ; 3.12 ± 1.56 and 8.3 ± 0.0 mg/ml vs 12.5 ± 10.6 ; 6.25 ± 4.29 and 9.9 ± 0.0 mg/ml respectively). The activity of chlorhexidine digluconate towards epidermal staphylococci was 7.1 times higher than the activity of decametoxine. *E. coli* demonstrated the highest sensitivity to decametoxine (MBcC – 6.25 ± 1.25 vs 12.5 ± 10.60 mg/ml for chlorhexidine digluconate). The sensitivity analysis of *P. aeruginosa* isolates revealed rather low sensitivity to chlorhexidine digluconate (MBcC – 50.0 ± 0.0 mg/ml) and 7 times less sensitivity to decametoxine (MBcC – 350.0 ± 0.0 mg/ml).

Conclusions. An antiseptic medicine - 2% chlorhexidine digluconate solution - has high antimicrobial activity against a wide range of opportunistic pathogens that colonize the mouth and throat. The study of antimicrobial activity of antiseptic agents in respect to opportunistic pathogens that colonize the upper respiratory airways in children is promising in terms of further use for prevention of ventilator-associated pneumonia in children.

Key words: antiseptic preparations, antimicrobial activity, microorganisms.

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**INDICATORS ELECTRICAL ACTIVITY OF HEART BOYS AND GIRLS
ATHLETES AND NONPORTSMEN WITH DIFFERENT TYPES OF BODY
STRUCTURE**

Introduction. Data on changes in ECG parameters in patients individual somatotypes very little besides the impact of sports activity in the performance features of the electrical activity of the heart in patients adolescence various constitutional groups never investigated [Sarafynyuk, 2009].

The purpose of our study was to establish the differences in performance of electrical activity of the heart in young people who are engaged and not engaged in sports and belong to different somatotype.

Materials and methods. We examined 174 male athletes, we were divided into 5 groups according somatotypological Affiliation: mesomorph (89), ektomorph (21), ekto-mesomorph (31), endo-mesomorph (18) and those with intermediate mean somatotype (15). Also, the experimental group consisted of 93 boys who are not

involved in sports, they were distributed somatotypological: mesomorph (29) ektomorph (23), ekto-mesomorph (18), endo-mesomorph (9) and those with intermediate mean somatotype (14). The study involved 80 girls and athletes, including: mesomorph (23) ektomorph (17), ekto-mesomorph (11), endo-mesomorph (6), with a mean somatotype intermediate (22) and 127 women who did not involved in sports: endomorfy (4), mesomorph (27) ektomorph (28), ekto-mesomorph (11), endo-mesomorph (25) and with an average somatotype intermediate (32). We conducted ECG studies using computer diagnostic system, providing simultaneous registration of the electrocardiogram, phonocardiogram and measuring blood pressure. We conducted anthropometric studies on how Bunaka [1941] somatotypological - calculated by a modification of the method of Heath-Carter [1990].

Results. It was established that the rate of PQ interval duration in young athletes and nesportsmeniv had somatotypological differences. It was established that the rate of PQ interval duration in girls who are not involved in sports, endo-mesomorph significantly smaller than the mesomorph and ektomorph ($p < 0.05$ in both cases). A comparison of this indicator between persons of different sexes we found no significant differences. It was established that the rate of QRS duration in standard lead II in young athletes endo-mesomorph significantly greater than the mesomorph and ecto-mesomorph ($p < 0.05$ in both cases). In females who do not play sports in endo-mesomorph, this figure was significantly higher than in women of middle intermediate somatotype ($p < 0.05$). This figure was at the same level when compared between the respective groups of boys and girls.

Conclusions. Mesomorph in young athletes indicator P-wave duration, QT interval and RR, athletes ektomorph the indicator of the interval QT, ecto-mesomorph in figure P-wave duration are most important. In young athletes endo-mesomorph somatotype and medium intermediate rate of P-wave duration and RR interval has the lowest value. Athletes in women of middle intermediate somatotype index duration of the QT interval has the greatest value. The girls athletes mesomorphic somatotype index duration of the QT interval has the lowest value. In males who are not involved

in sports mesomorphic somatotype index interval duration PQ has the lowest value. The girls who do not play sports and mesomorphic somatotype index ektomorphic PQ interval duration and the average rate of intermediate somatotype duration of the QT interval has the greatest value. Also, the largest value is the time deviation and right ventricular RR interval in the middle of nesportsmenok intermediate somatotype. In females nonsportsmen ektomorphic somatotype index length of the interval QT, endo-mesomorph figure the length of the interval PQ and mean somatotype index intermediate QRS interval duration is minimal.

Key words: electrocardiography, athletes, nonsportsmen, sportsmen, somatotype, adolescence.

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**CORRELATION BETWEEN INDICATORS OF
CARDIOINTERVALOGRAPHY AND ANTHROPO-
SOMATOTYOLOGICAL PARAMETERS IN HEALTHY MEN OF
PODOLIA OF THE FIRST COMING OF AGE WITH DIFFERENT
SOMATOTYPE**

Introduction. Method of analysis of HRV is widely used to assess the status of autonomous regulation of physiological functions in the human body, in particular the general activity of the regulatory mechanisms of neuro-humoral regulation of the functions of the heart, the ratio of a tone of sympathetic and parasympathetic parts of the autonomous nervous system (ANS).

Materials and methods. On the basis of scientific-research center of Vinnitsa National Medical University named after Pirogov conducted a comprehensive survey

of almost healthy urban men in a number of 114 ranging in age from 22 to 35 years of age in accordance with the scheme of the periodization of human ontogenesis.

Cardiointervalography was carried out using cardio computer diagnostic complex "OPTW" in the patient lying on his back after the mandatory 10-15 minute adaptation to surrounding conditions in the room air temperature 20-22 oC. During the investigation of the patient was breathing without making deep breaths, no coughing, not swallowed saliva. Before registering, place blending electrode treated with alcohol, then saline to reduce resistance contact "electrode-skin". Entry of electrocardiography for 5 minutes spent in the second standard laid out next to the computer.

For the estimation of somatotype used a mathematical diagram by J. Carter and B. Heath, which is based on seven-point assessment of the three components of the body: endomorph – that characterizes the degree of development of adipose tissue; mesomorph – determines the relative development of muscle and bone components of the body; ektomorf– describes the relative linearity of the body.

As a result of the definition of somatotype men were divided into 6 groups: endomorph (n = 3), mesomorph (n = 50), ektomorf (n = 11), ecto-mesomorph (n = 16), endo-mesomorph (n = 26) and men with average intermediate somatotype (n = 8).

Analysis of relationships between indices of cardiointervalography and anthropo-somatotypological settings are given in the package "STATISTICA 5.5" (belongs to VNMU named after Pirogov, license № AXXR910A374605FA) using statistics by Spirmen.

Results. Analysis of the interrelationship of cardiointervalography with anthropo-somatotypological indicators and indicators component of bodyweight in healthy urban men's of Podolie in the distribution on different somatotypes has set the following features:

– men of mesomorph somatotype rise of larger exponents of length of lower limb, width of the distal epiphysis of upper extremity accompanied by increasing the activity of the parasympathetic part of ANS (confirmed by direct connections with the height of the

pubic and the points and width of the distal epiphysis of shoulder and forearm with all statistical indicators of the HRV, the maximum value of R-R interval and most appropriate spectral indices of HRV, as well as recurrent connections data indicators with metrics HS by Baevskii);

– in men of endo-mesomorph somatotype rise or spanning links with larger body size indices is accompanied by increasing the activity of the sympathetic part of the ANS (confirmed by direct relationships with all the parameters to the method Baevskii and the amplitude of the fashion and recurrent relationships with executed wingspan), and the rise of larger indices sagittal arc chairman, thickness skin fat folds of the upper half of the body and the transverse size of the torso is accompanied by increasing the activity of the parasympathetic part of ANS (confirmed by direct communication with SDNN, RMSSD, with capacity in the range of high frequencies, as well as recurrent connections sagittal arc and half of the transverse size of the torso with indices autonomic balance and stress regulatory systems);

– in the men's of ecto-mesomorph somatotype, despite the large number of mostly unreliable, medium power connections clear unidirectional picture of increased activity of sympathetic and parasympathetic parts ANS is depending on the features of anthropo-somatotypological parameter not set (confirmed by the direct links like anthropo-somatotypological indexes of SDNN, executed a wingspan and recurrent connections data anthropo-somatotypological indicators of the most relevant indicators of VP).

Conclusions. In general and the different age groups of men the greatest number of statistically significant correlations established in men aged 22 to 25 years (2,7% of the total). Distribution on various somatotypes the largest number of statistically significant and the average strength of unreliable connections detected in men ecto-mesomorphic somatotype (28,7% of the total), and the lowest – in men mesomorphic somatotype (8,5% of the total). In men of different somatotype installed features anthropo-somatotypological settings in which there is increased activity of sympathetic or parasympathetic parts of the autonomous nervous system.

Key words: cardiointervalography, anthropo-somatotypological settings, somatotype, men of the first coming of age.

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ANTIOXIDANT AND PROOXIDANT BALANCE IN THE TISSUE OF HEART, LUNGS AND LIVER IN DYNAMIC OF POLYTRAUMA

Introduction. It is known that intensification of peroxide oxidation of lipids (POL) and exhaustion of antioxidant defence is one of leading pathogenesis mechanisms of the hard trauma. The *goal* of the work was to estimate prooxidant and antioxidant balance in the tissue of heart, lungs and liver in dynamic of polytrauma, the correlation of the components in the parenchymatous organs can become the criteria of the development of polyorgan dysfunction insufficiency.

Materials and methods. The polytrauma was conducted by the method of Kozak D.V. [2011] on the 62 non-linear white rats-male with the weight 180-200gr which were taking out from the narcosis with the way of the total bloodletting from the heart in 2 hours on the 1,3,7,14,21,28 day after the trauma. The state POL was estimated by the content in the blood serum of TBC-active products POL [Andreyeva and others, 1988]. The level antioxidant system was determined by the activity of catalase [Andreyeva and others, 1988]. The antioxidant and prooxidant index (API) was calculated by the correlation of the activity of catalase / the content TBC-active products of POL [Levitskiy and others, 2006]. The got data were given to the statistical analysis with the use of the programmer STATISTICA 10.0 («StatSoft, Inc.», USA).

Results. It is revealed that practical all terms the value API in the examined organs statistically reliably descended to the control level: in the tissue of the heart at the end

of the experiment the API was 37.0% less than in the control group ($p < 0,01$); in the tissue of the lungs –less 23,6% ($p < 0,01$); in the tissue of the liver –less 22,7%, ($p \leq 0,05$). The results of the comparative analysis of the value of API between the examined organs satisfy that in norm the antioxidant reserve is more in the tissue of the liver and less – in the tissue of the heart and lungs ($p < 0,001$). In the dynamic of the trauma in the examined organs are determined the oscillatory deviation of the value API: the considerable reduce of the value in 3 days, the raise – in 14 days and the second reduce – in 21-28 days.

Conclusions. The liver has higher antioxidant reserve than the heart and lungs in norm. Under the conditions of the trauma in the acute period, the period of early and late manifestations of the trauma disease the reserve of antioxidant is more in the liver. In the acute period and the period of the early manifestations the value API is rather mare in the lungs than in the heart. In the period of the late manifestations of the polytrauma disease the value API in these organs is practically the same.

Key words: polytrauma, lipid peroxidation, antioxidative defense, prooxidant-antioxidant balance.

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PHARMACOEPIDEMIOLOGY OF PHOSPHODIESTERASE 5 INHIBITORS

Introduction. According to the forecast of I.A. Ayta et al., the number of patients with erectile dysfunction (ED) in the world will increase from 152 million in 1995 to 322 million in 2025. Incidence and prevalence of ED has been studied in one of the first large randomized trials (MMAS, 1994), in which 513 people participated, and a

reliable association of ED with age, hypertension, cardio-vascular diseases, diabetes, peripheral vascular disease, prostatic hyperplasia was shown. One of the main problems for the patient is to consider the existence of ED as a problem that affects the quality of life. The majority of men are hesitant to discuss problems with sexual status even with a doctor. All this lead to reduction of compliance and affects the quality of patient treatment.

Materials and methods. First of all, we have analyzed the range of phosphodiesterase-5 inhibitors (iPDE 5) presented at pharmaceutical market in Ukraine and its dynamics during 2008-2012 years. iPDE 5 are represented by three derivatives: sildenafil, vardenafil and tadalafil. The most widely presented sildenafil 88% in 2008, 91,6% in 2010 and 86,2% in 2012. Domestic producers presented only syldenafil in 2008-2010 (27,3 % and 22,7 %, respectively). Tadalafil and Vardenafil drugs were only foreign-made brand drugs. In 2012, domestic producers represent at pharmaceutical market 24% of generic forms of sildenafil and 33,3% of tadalafil.

Results. Ranking of foreign providers of iPDE 5 to the pharmaceutical market of Ukraine revealed that within 5 years of leadership positions, under the registered trade names, occupied India. Indian generics amounted to 44% in 2008, 33% in 2010 and 41,3% in 2012 from assortment of these foreign-made drugs. Second and third place were shared by brand drugs producers – Britain and France, and other countries did not cross 7% barrier. Ranking of countries-providers of iPDE 5, according to the sale in pharmacies, showed the predominance of French brand drugs (44,6%) in 2008, which gave positions to Ukrainian generics (55%) in 2010 and (55,7 %) in 2012.

In addition, seasonality of iPDE 5 sales with an increase in the winter- spring period was founded. It was also confirmed by comparing the scope of sales to the length of daylight. This pattern can be explained by the relatively reversible influence of hormones - testosterone and melatonin. Thus, at decrease of daylight length that occurs in winter, production of melatonin is increased, which inhibits the synthesis of testosterone and, therefore, increases demand of iPDE 5 usage.

In assessing the dynamics of patients adherence to the iPDE 5 brand, revealed a significant increase in sales of generic drugs according to the sales scope in pharmacies in 2010-2012 compared to 2008, due to the expansion of the range of generics in the pharmaceutical market of Ukraine.

Conclusions. According to the research sildenafil as iPDE 5 is the widest represented in the domestic pharmaceutical market. Domestic producers represent at pharmaceutical market 24% of generic forms of sildenafil and 33,3% of tadalafil. Ranking of foreign providers of iPDE 5 to the Ukrainian pharmaceutical market revealed that within 5 years of leadership positions, under the registered trade names, occupied India. While, according to the sale in pharmacies, the predominance of French brand drugs (44,6%) in 2008 was shown, which gave positions to Ukrainian generics in 2010-2012. In addition, seasonality of iPDE 5 sales with an increase in winter- spring period was founded. It was also confirmed by comparing the scope of sales to the length of daylight.

Key words: erectile dysfunction, PDE 5 inhibitors.

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**FEATURES CONNECTIONS DERIVATIVE PARAMETERS
RHEOVAZOGRAM TIBIA WITH THE INDEX STRUCTURE AND BODY
SIZE HEALTHY BOYS AND GIRLS PODILLYA**

Introduction. At this article the results of links were showed between shin's rheovasogram with data of the structure and size of the body of the healthy boys and girls of the Podyllyya region. One of the main non-invasive methods for the study of hemodynamics in segments of the limbs is rheovasography (RVG), which is widely

used in the treatment of patients with diseases and injuries of the musculoskeletal system, vascular disease, disorders of the endocrine and nervous systems. The *aim* of our study was to evaluate the features of bonds derived indicators of performance rheovazogram leg structure and size of the body healthy boys and girls of Podillya.

Materials and methods. The study involved 335 healthy individuals adolescence Podolsk region of Ukraine. Among them were 167 girls aged 16 to 20 years and 168 boys aged 17 to 21 years. Rheographic parameters were determined using computer diagnostic cardiology complex, which provides simultaneous registration of the electrocardiogram, phonocardiogram, basic and differential rheogram and tetrapolar measurement of blood pressure. To evaluate the somatotype we used a mathematical scheme J.Carter i B.Heath.

Results. The boys and girls were found out numerous weak correlation between index of the artery tone average and shallow sizes and average speed slow blood supply of anthropo- somatotypological data and components of the body weight. The boys numerous correlations with constitutional parameters were found with tone of all arteries and the ratio of arterial tone.

Conclusions. Dicrotic and diastolic indices (in boys and girls) and index large-caliber arterial tone (the girls) were not significantly correlated with any anthropo-somatotypological index or component weight. In boys set numerous weak correlation index of arterial tone, tone indicator arteries and medium caliber shallow, the correlation between the tone of arteries and blood supply of the slow average speed of somatotypological anthropo-performance components and body weight. The girls identified numerous weak correlation index tone of arteries and medium caliber shallow and slow average speed of blood supply anthropometric dimensions and components of muscle weight.

Key words: shin's rheogram, rheovazogram derivative indices correlation, anthropometric parameters, boys, girls.

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STRUCTURE OF CAUSES OF LATE-TERM ABORTIONS AND STILLBIRTHS IN VINNYTSYA REGION IN 2013 YEAR

Introduction. Substantial criteria that indicate the quality and standard of living are demographic. In turn, the demographic problems is an indicator of overall social situation of the country. We know that in less than 20 years, the population of Ukraine decreased more than 6.6 million. People from 52114.4 thousand persons in 1994 to 45,480.3 thousand as of 1 October 2013. An important factor in the component of the overall population growth is the number of stillbirths.

The structure of causes of late-term abortions and stillbirths in the Vinnytsya region in 2013 year was investigated.

Materials and methods. It was reported 137 cases of autopsies of late-term abortions and stillbirths during this year. Total number of reports was 137 (of which - 75 male fetuses and 62 female fetuses). Statistical analysis was performed digital data using a standard software package «Statistica 8.0» firms Statsoft.

Results. There were 75 male fetuses and 62 female fetuses among them. The share of diagnosed cases of total newborns amount was 0,8%. The intrauterine asphyxia (ante- or intranatal) is the main cause of late-term abortions and stillbirths, it was found 93 cases, accounting for 67,9% of all abnormalities. Congenital malformations of the central nervous system constitute 12,4% in the structure of the causes of late-term abortions and stillbirths. It includes: hydrocephalus – 10,2% of cases, Dundee – Walker syndrome – 1,5% of cases. Also it was found that in 4 (2,9%) diagnosed cases of spina bifida hydrocephalus was accompanied in 3 cases. In addition, it was diagnosed 2,9% of lung malformations (agenesis or aplasia) and 2,9% of kidney

defects (polycystic disease or hydronephrosis). Heart defects of various origins revealed in 2,1% of cases, mostly hypoplastic left heart syndrome. The malformations of the bones and their joints were also recorded in 2,1% cases, they were presented in a shortening of the limbs, osteochondrodysplasia, brachy- and clinodaktyly. Also, it was diagnosed omphalocele, cystic chylangioma, hygroma of the neck, Down Syndrome and so on in 2,1% of cases.

Conclusions. The highest frequency of identified causes of late-term abortions and stillbirths observed in the age of 20-22 weeks of fetal development, accounting for 23,4% of all cases detected per year. The lowest frequency, 2 (1,5%) cases in each term, met in the following periods of gestation as 24-25, 28-29, 29-30, 32-33, 34-35 weeks. The structure causes late abortions and stillborns in Vinnitsa region in 2013 accounted for a larger proportion intrauterine asphyxia (ante- or intrapartum) - 67.9%. The proportion of birth defects was 32.0%. Of these, the central nervous system defects (hydrocephalus, spina bifida and syndrome Dundee-Walker) were the largest share - 12.4%.

Key words : prenatal development, birth defects, stillborn.

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EFFECTS OF THE HIGH PRESSURE IN THE PANCREATIC DUCT

Introduction. This paper presents the most expressed differences of the high pressure influence in the pancreatic duct. In recent years the number of patients with acute and chronic pancreatitis, with revealed pseudocysts, has increased considerably. In case of chronic pancreatitis different manifestations of the ductal hypertension with dilatation of the main pancreatic duct can be observed.

The research objective is to estimate effects of the high pressure in the pancreatic duct of a human and animal.

Materials and methods. To complete the set task we performed studies using 85 human and 10 dogs' specimens of the pancreatic gland.

Results. To define influence of the high pressure on the pancreatic tissue more exactly the experiments were carried out using 57 human pancreatic specimens. In this case the methylene blue water solution served as the indicator of hypertension in the pancreatic duct. After insertion of the catheter into the duct the wall of the latter was fixed thereto creating conditions of the reflex spasm of the pancreatic duct sphincter. The minimum pressure causing appearance of blue spots under the capsule made up 7,3 kPa on the average with the range of 4,0-9,3 kPa. In ten cases the blue spots appeared at the pressure of 4,0-5,0 kPa. More often the spots appeared in the area of the gland body. It was established that such "weak" glands belonged to people who were alcohol abusers while alive. While studying the high pressure influence on the pancreatic tissue of ten dogs (the experiments were carried out similarly to the human pancreatic specimens) the blue spots were detected under the gland peritoneum at the pressure of 3,6 kPa on the average while the normal pressure in the duct was 2,5 kPa. More often (7 cases) the spots appeared in the surface areas of the gland peripheral part, in three cases the blue spots appeared simultaneously over the whole surface.

Conclusions. Hypertension in the pancreatic duct results in outlet of the radiographic contrast medium and the blue outside the gland through its tissue mostly in the area of the body and tail. The results of the study show similarity of the high pressure effects in the pancreatic ducts of humans and dogs. The received data will make it possible to consider the high pressure effects in the pancreatic ducts on disease diagnostics and performance of surgical treatment.

Key words: high pressure, pancreatic gland.

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**COMPARATIVE ANALYSIS OF EXPERIMENTAL APPLICATION OF
TWO-COMPONENT COMPOSITE ALLOGRAFTS SEPARATELY AND
TOGETHER WITH THE PLATELET-ENRICHED PLASMA**

Introduction. *Objective of the paper* – to present a comparative analysis and study morphological changes in the adjacent biological tissue caused by a composite implant as well as the changes when such implant is applied together with the platelet-enriched fibrin and fat graft.

Materials and methods. The experimental study was made on 36 sexually mature male rats. The rats were implanted subcutaneously in 2 various segments of the back: 1 fragment of a composite synthetic implant, and the 2nd fragment of the implant placed in a coat of the platelet-enriched fibrin and fatty tissue. Pathomorphological study was made. The average value of the fibrosis area and the blood stream union were determined.

Results. Most pronounced during the first month was the infiltration with lymphocytes and plasmacytes within the zone where the composite mesh prosthesis was implanted together with the fatty tissue and the platelet-enriched fibrin. In 2 months this acute immune tissue response becomes similar in all studied zones of the plastics. On the lapse of 3 months the cell number of immune response to the embedded substances becomes sharply different. As a result of numerous fibroblasts that appear in the places where the prosthesis was implanted, the fibrosis areas emerge. The fibrosis share on the 30th day (I) – 18%, (II) – 13%; on the 60th day (I) – 24,6%, (II) – 16,3%; on the 90th day (I) – 32, and (II) – 18,4.

The vascularisation degree of the formed “prosthesis-connective tissue” complex was as follows: on the 30th day (I) – $12,4 \pm 2,1$, (II) – $18,7 \pm 3,4$; on the 60th day (I) – $14,5 \pm 0,8$, (II) – $19,4 \pm 2,3$; on the 90th day (I) – $16,4 \pm 1,4$, (II) – $22,1 \pm 3,1$.

Conclusions. Application of the construction based upon the platelet-enriched fibrin and fatty tissue impacts positively the integration of a two-component composite mesh implant in the biological tissue as manifested in a reduction of periprostheses fibrosis and improvement of the peripheral revascularization. In future this data will be used for further clinical therapy of the patients suffering from ventral hernia with the use of a complex of allograft together with the platelet-enriched plasma.

Key words: platelet-rich fibrin, fat graft, cytokines, multipotent stem cells, two-component composite mesh implant.

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**DYNAMICS OF WOUND BIOFILM MICROBIOTA CHANGES,
PROTEOLYTIC AND FIBRINOLYTIC ACTIVITY OF BLOOD IN RATS
WITH DIABETES MELLITUS UNDER THE INFLUENCE OF «SORBENT-
ANTIBIOTIC» COMPOSITION**

Introduction. Treatment of surgical diseases of the developing or occurring against the backdrop of diabetes is one of the important issues of modern surgery. The *aim* - to examine changes in the microbiota biofilm wound proteolytic and fibrinolytic activity of the blood of rats with diabetes modeled influenced song "sorbet antibiotic."

Materials and methods. All experimental animals were divided into 3 groups: the first group consisted of healthy rats (n = 10), which formed purulent-necrotic process (PNP) soft tissue developed technique. In the second group of experimental animals

(n = 23), soft tissue modeling PNP carried out against the backdrop initiated aloksan diabetes mellitus (DM) (subcutaneously injected 5% at a dose aloksan 170 mg / kg after 24-hour fasting animals). 2 rats died in 1 diabetes did not develop. In the third group (n = 22) formed the PNP soft tissue on a background aloksan induced diabetes, from the start of the experiment used sorbent composition antibiotic. Of these, 2 rats did not develop diabetes. We used clinical and laboratory examination methods of experimental animals and microbiological, biochemical methods, determination of hemocoagulation, proteolysis-fibrinolytic parameters, statistical and analytical and others.

Results. In order to create pathological process adequate to clinical prototype we have developed a method of modeling festering wounds with defined microflora in 55 laboratory rats exercised by the introduction of specified number of microorganisms on blade scarified area, wherein the microorganisms are fixed in the subcutaneous tissue using purse suture on prepared silica gel container. The peculiarity of the dynamic changes in the microflora of biofilms in experiment is that there are several changes in its qualitative and quantitative composition, mainly increasing of opportunistic pathogenic facultative anaerobic and aerobic microorganisms, including *Escherichia coli*, *Pseudomonadae* and other *Enterobacteriaceae*. The use of the «sorbent antibiotic» composition significantly affect the variables of enzymatic activity in biopsies of suppurative process areas.

Conclusions. A new way of modeling purulent necrotic processes by introducing soft tissue in skaryfikovanu blade area of experimental animals given number of clinical strains (105-107 CFU/g), which are fixed tissue using suture kapshukovoho prepared to sylikohelevomu container lets you play back pathogenic processes that occur in the body of experimental animals depending on species composition and population-level bacterial contamination and persistence. Purulent necrotic processes of soft tissues have polyetiological basis - association 2 - 4 opportunistic microorganisms belonging to 7 different taxonomic groups. The leading pathogens purulent necrotic processes of soft tissues in the experiment is *S. aureus* (53,85 - 76%, $7,41 \pm 0,39$ lg CFU/g), *S. epidermidis* (34,62%, $5,34 \pm 0,42$ lgCFU/g), *Str. pyogenes* (23,81%, $6,83 \pm 0,50$ lg

CFU/g), *P. aeruginosa* (33,3%, $5,73 \pm 0,35$ lgCFU/g), conditionally pathogenic *Escherichia* (23.08 - 76, 19%, $7,41 \pm 0,53$ lgCFU/g) and other Enterobacteriaceae (3,85-44,4%, $5,61 \pm 0,28$ lgCFU/g), less enterococci, prevotely and bacteroides.

Purulent necrotic processes characterized by soft tissue reduction ($r \leq 0,001$) intensity of fibrinolysis in the area of inflammation. The opposite of growth proteolysis, mainly aimed at low molecular weight protein fraction - is the result of factors of virulence of microorganisms and excessive activation factors and mechanisms of nonspecific resistance of the organism. The use of the song "sorberent antibiotic" can significantly reduce proteolysis of protein (in 1.52 - 2.02 times $r \leq 0,01$), which may be caused as a sorberent adsorption effect and influence bactericidal antibiotic drug and reduction of microbial load.

Key words: purulent-necrotic process, modeling, proteolysis and fibrinolysis, local sorberent.

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MICROBIOLOGICAL STUDY OF PROPERTIES OF POWDER COMPOSITION ASPERSEPT PLUS

Introduction. Among the deficiencies in treatment of inflammatory diseases are lack of therapeutic efficacy of antimicrobial agents. Prolonged chemotherapy appointment, antibacterial drugs leads to adverse reactions, antibiotic resistance of pathogens. Opportunistic microorganisms play a very important role in the development of purulent-inflammatory diseases. According to modern approaches, complex methods of wound management using combinations of antiseptics and

sorbents are important. *The aim* was to study antimicrobial activity of new powder compositions against *S. aureus*, *E. coli* for substantiation of ingredients' quantity in aspersept plus.

Materials and methods. Antimicrobial activity of 6 powder compositions with decamethoxine, metronidazole, polymethylsiloxane, silics in different content proportions was studied against *S. aureus* (n 5); *E. coli* (n 5); *C. albicans* (n 5). Minimal inhibitory concentrations (MIC), minimal bactericidal concentrations (MBcC) were studied by means of serial dilution method.

Results. High antimicrobial activity of composite powders compositions, containing decamethoxine (1,5 weight%), against strains of *S. aureus* (MBcC- 3,5±0,61 mkg/kg) and *E. coli* (MBcC-12,0±2,0 mkg/kg) has been found in the research. According to the research of antifungal properties of antimicrobial powders we found that strains of *C. albicans* were sensitive to MBcC- 10,5±1,84 mkg/kg. Antifungal activity of decamethoxin was, a little bit potentiated, comparably to antseptic's activity without sorbents.

Conclusion. Antiseptic aspersept plus is a powder composition decametoxine, metronidazole, silicon dioxide, zinc-containing compounds has good antimicrobial properties to *S. aureus*, *E. coli*. Aspersept plus multicomponent powder composition is diverse actions with high antimicrobial activity against pathogens of inflammatory diseases of the skin and soft tissue healing properties, sorption capacity. Powder composition, containing decamethoxin (2 weight%) siliks (28 weight%), polymethylsiloxane (55,5 weight%), zinc oxide (10 weight%), metronidazole (4,5 weight%), is optimal and provides sufficient antimicrobial effect against strains of microorganisms, causing infectious complications of wounds.

Key words: decamethoxin, metronidazole, polymethylsiloxanum, silica dioxide, powder composition, infection.

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**CT CORRELATION PARAMETERS LIQUOR CONTAINING BRAIN
STRUCTURES MASH WITH INDICATORS OF STRUCTURE AND BODY
SIZE GIRLS DOLICHOCEPHALS**

Summary. In healthy girls dolichocephals found a large number of statistically significant and medium strength unreliable forward and backward linkages CT parameters liquor containing GM structures with anthropometric, somatotypological component performance and levels of body mass: multiple direct and inverse - for the length of the anterior horns of the lateral ventricles with kefalometriceskimi indicators (mostly strong ties) multiple lines - only the transverse dimension of the left hemisphere lateral fossa with GM SHDE long bones of the lower limbs, reaching the end, TKZHS indicators and, consequently, with the endo-and mesomorphic somatotype components, bone and fat body mass multiple inverse - for the longitudinal dimension of the III ventricle GM and the average width of furrows GM hemispheres with ral body size and, as a consequence, with the mesomorphic somatotype component and lean body mass, as well as for the length of the anterior horn of the lateral ventricles of the GM with the longitudinal dimensions of the body .

Key words: correlation, liquor containing brain structures, computer- tomographic study dolichocephaly, adolescence.

Clinical researches

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IMMUNOLOGICAL CRITERIONS MARKS OF DIFFICULTY AND RESULTS OF SURGICAL CORRECTION OF NONNEOPLASTIC OBTURATIVE JAUNDICE WHICH IS COMPLICATED WITH LIVER FAILURE

Introduction. The dissatisfied results of the surgical treatment of the patients with nonneoplastic obturative jaundice (NNOJ) are conditioned with non-of-coordination of views to choose optimal algorithms of the treatment policy as for postoperative curation of its complications. In connection with this the *goal* of research is the mark of the indices of immunological reactivity of the patients with NNOJ complicated with different degrees of liver failure from the position to reach the optimal criterions of early and farther results at the selection of adequate tactful algorithms and preoperative medicamental accompaniment.

Materials and methods. For the period of 2005-2012y.y. on the clinical bases of the surgical department №2 VHMU named after M.I. Pirogov 510 patients with NNOJ at the age 61.7 ± 0.61 years old were under surgical treatment. The 84% (428 people) were diagnosed with the accompanied pathology. In the control group there were 260, in the main – 250 people.

The degree of the acute liver failure (ALF) was determined by V.A. Vyshnevskiy (2003), the detalisation of the easy degree ALF – with the modified criterions of V.P. Zinevich (1986): the group with bilirubinemia <100 micormole/l spreat the 1 group with the compensated stage ALF (latency stage) with the level of bilirubin <50 (12.2%: the control group 6.3%, the main one – 5.9%); the 2 group with subcompensated stage of ALF (an easy degree) with the bilirubinemia 50-100 (14.4%: the control group – 7.4%, the main one – 7.0%). The stage of decompensation (101-200) responds to the middle degree of ALF as the level 101 testifies the abnormalities of all functions of the liver (42.2%: the control group – 21.6%. the main one – 20.6%), the terminal stage (>201) – difficult ALF (31.2%: the control group – 15.7%, the main one – 15.5%).

Taking to the account the influence of ALF and the accompanied pathology on the come

out difficulty: the satisfied state responded to 12.5%, the middle difficulty – 49.8%, the difficult state – 33.7%, very difficult – 4.0%. ASA II stage – 11.4%, III – 50.4%, IV – 38.2%. The humoral, cellular immunity and the system of nonspecific defence were estimated. The state of the cell link was determined with the quantity of the lymphocytes with their population and subpopulation identification with the method of the straight immunofluorescence monoclonal antibody "Ortho Diagnostic System" of the general population T-lymphocytes (CD3) and B-lymphocytes (CD19), subpopulation T-cellular link (T-helpers (CD4), T-suppressors (CD8), immunoregulator index (IPI=CD4/CD8), natural killers (NK-cells) (CD16), activated lymphocytes with high affinity receptor to IL-2 (CD25) and mediated T-lymphocytes apoptosis (CD95). The humoral immunity was examined with immunoglobulin (Ig) G, M and A method of the simple radial immunodiffusion. The Nonspecific defence was estimated by the way of the determination of circulation of immune complexes (CIC) and phagocytic activity of neutrophils. CIC was estimated with the content of the middle molecular CIC at the length 315 nm after their previous selective precipitation from the serum 3.5% polyethylenglicol. Phagocytic activity of the neutrophils was estimated according to the phase of absorption (phagocytic number and index) and the phases of digestion (completeness of phagocytosis).

The results of the research were analyzed with the methods of the dispersed multiple-factors correlational and regressive analysis and prediction with the forming of the primary base on MS Access 2007, the standard macros of the electronic tables MS Excel 2007, specialized packets of the statistical analysis Statistica 5.0.

Results. The monitoring of immunoreaction a NNOJ testified the presence of the natural changes of the cellular and humoral immunity and nonspecific defence. The progressive growth of bilirubinemia and the deepening of the difficulty ALF in consequence of the continuous cholestasis led to the increase of the leukocytosis, CIC (non-straight indicator of the degree of the hypoxia of liver), CD95, conditioned with dose dependent influence of the growth IL-6, CD19, production Ig M and G NK-cells (CD16) and CD25, the dynamic of which is tightly connected and depends on IL-2 (except critical NNOJ, where the decrease of CD25, CD16 and the dysfunction CD19

with the depression of synthesis of antibody – fall IgM and G were observed). It was on the background of lymphocytopenia, the decrease (CD3, CD4) that on the permanent background (CD8), leading to the decrease IPI that conditioned with suppression of the high concentration IL-6, to the decrease IgA and the disfunction phagocytes, when phagocytic activity grows (PN, PI) and its effect fell down sharply (CP). The changes of the indices of immunoreactivity occupied all links of immunity, their degree is conditioned with the duration of NNOJ and straight connected with the changes of the cytokines.

In the course of the regressive analysis of the markers of immunoreactivity with their building in the correlative couples with the general bilirubin for the determination the strength of their connection confirmed the negative influence on the growth of the general bilirubin and conditioned with it the deepening ALF on all links of the immunity: leucocytes (0.303), B-lymphocytes (0.592), NK-cells (0.777), CD25 (0,26), Ig M (0,619) and G (0,557), CIC(0,498), PN(0,737), PI(0,23).

According to the data of learning the influence of selected surgical methods on the farther results of the operative intervention by the way of the observation of the some immune markers (IgA – the marker of the system of the regional biliary defence) allowed them to stratify depending on the changes of the threat of the microbial translocation and the degree of the farther safety: 1) outward drainage of choledoch with the realization as in laparoscopic as in lapatotomy variant (sphincter preserving), 2) endoscopic stenting and papillotomy (sphincter saving), 3) endoscopic endoscopic papillosphincterotomy (sphincter destroy), 4) choledochoduodenostomy (sphincter defiant).

Conclusions. The dynamic of the indices of the immune status of the patients with NNOJ is determined with the stage of the liver disfunction corresponded degree which is conditioned with ALF and the term of existence of biliary hypertension. The immune status of the patients with NNOJ is characterized with suppression type of immunogramme, progression of the changes of the indices which are determined with the stage if the liver disfunction and the degree ALF. The complex of the preoperational conservative therapy has to include obligatory correction of the

suppression changes if the immune status to reduce the risk of the appearance of the postoperative complications, that will create the foundation to make better the early results of the surgical correction. The estimation of the farther results of the treatment from the position of the risk of the biliary translocation stratifies by the degree of the postoperative safety and the acception of the farther results all existent surgical methods that grounds the selection of the optimal tactful programmers and the technology of their realization, reducing the risks of the development of the farther complications (chronic cholangitis) making better the complex results. The complex of preoperative diagnostic algorithm has to be supplemented with the obligatory execution of the expanded immunogramme, their correction of the indices should be realized on all the stages of the preoperative curation.

Key words: noncancer obstructive jaundice, immune status, suppressive immunograms type, early and late results of surgical treatment.

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DYNAMICS OF PAIN SYNDROME IN PATIENTS WITH FRACTURES OF LOWER JAW BONE WHEN USING NUCLEO CMF FORTE

Introduction. Injuries of facial bones take a special place among human skeleton mechanical damages due to the nature of anatomical structure of this area, high frequency of occurrence of apparent functional and cosmetic impairments. When breaking the body of lower jaw we observe injury of inferior alveolar nerve – the largest branch of lower jaw nerve, which runs in the same channel of lower jaw bone. The most common neurological disorders in this case are significant pain syndrome,

disturbance of skin sensitivity of the lower lip and mucous membrane in the form of anesthesia, hyperesthesia or paresthesia, neurotrophic disorders. Pain syndrome of various degrees of manifestation takes place in majority of injuries. One of the important problems in maxillofacial surgery is diagnostics of neurodental diseases, the main clinical manifestation of which is pain syndrome and neurological disorders in the maxillofacial area.

The objective of our study became a comparative description of main indicators of pain syndrome in patients with mandibular fractures, accompanied by damage of inferior alveolar nerve using conventional treatment scheme, supplemented by application of Nucleo CMF Forte.

Materials and methods. In order to achieve the indicated objective, we have performed a surgical interference and further post-surgical treatment of 45 patients with angular mandibular fractures, accompanied by clinical picture of damaging inferior alveolar nerve alveolar nerve. Information about 45 patients made a clinical material.

Patients were divided into 2 clinical groups: a basic/index group and a control group. Assessment of pain syndrome and symptoms of neuropathy was conducted using a visual analogue scale (VAS) (we assessed subjective sensations of pain intensity) and the scale of overall assessment of neuropathy symptoms (NTSS - 9).

Complex of researches was conducted three times during the period of treatment: at the time of admission (first day), on the 7th day of treatment and on the 14th day of treatment.

Results. Having analyzed research results, we got the following data (table 1, table 2):

Table 1. Indices of visual analogue scale.

Time of examination	Control group	Basic group
1 доба	7,25±0,98	7,3±0,95
7 доба	5,5±0,65	4,8±0,68
14 доба	3,75±0,72	1,3±0,24

Table 2. Research results according to the scale NTSS - 9.

The scale of overall assessment of neuropathy symptoms (NTSS - 9)		
	Control group	Basic group
First day	21,97±0,98	22,04±0,95
7th day	17,72±3,39	14,25±1,55
14th day	14,65±2,89	3,83±0,53

Conclusions. Thus, after analyzing the dynamics of complaints and objective data for mandibular fractures in the area of the angle, that is accompanied by damage of the inferior alveolar nerve, it was found that using of Nucleo CMF Forte accelerates regression of pain syndrome in the course of treatment. This drug considerably reduces the intensity of manifestations of all kinds of neuropathy connected with inferior alveolar nerve damage, namely lightning pain, burning pain, aching pain, allodynia (distorted pain), static hyperalgesia, tingling, numbness, coldness, cramps (twitching).

So, the use of Nucleo CMF Forte is justified/reasonable in the combined treatment of mandibular fractures, accompanied by clinical signs of inferior alveolar nerve damage. It is planned to expand the scope of further studies using Nucleo CMF Forte for mandibular fractures by examining its impact on other symptoms of jaw fractures with inferior alveolar nerve damage.

Key words: mandibular fractures, inferior alveolar nerve, Nucleo CMF Forte, nociceptive disorders, pain, allodynia, VAS (visual analogue scale), NTSS-9.

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EXPERIENCE OF APPLICATION OF PUNCTURE AND DRAINAGE TECHNOLOGY IN THE TREATMENT OF CAVITARY FORMATION OF THE ABDOMINAL CAVITY ORGANS AND RETROPERITONEAL SPACE AND OF THE PILONIDAL ABSCESES IN SACROCCYGEAL AREA

Introduction. Percutaneous drainage method recently occupied a significant place in the treatment of patients with diseases of the abdominal cavity and soft tissue successfully compete with other minimally invasive methods of treatment. *Purpose* - to assess the hazard ratio of minimally invasive manipulation and its effectiveness compared with other treatments.

Materials and methods. The results of application of puncture and drainage methods of treatment under echography control in 403 patients are analysed. For the puncture-drainage interventions we used ultrasound machines B-K Medical Pro Focus 2202 (Denmark) and Philips HD 7 (Holland).

Results. 24 (6,8%) patients were diagnosed with subhepatic abscess, 21 (5,9%) – had subdiaphragmatic abscess, 36 (10,1%) – had omental abscess, 17 (4,8%) – had pelvic abscess, 31 (8,7%) – had pancreatic pseudocyst, 42 (11,8%) – had liver abscesses and cysts, 37 (10,4%) – had liver malformations, and 147 (41,4%) – had acute pilonidal abscesses. In the article the general principals of the performing of small invasive operations their benefits and risks, given the complications and results of the paracentetic treatment are discussed. The usage of the puncture and drainage technologies at the treatment of the cavitary formation of the abdominal cavity organs abdominal cavity, retroperitoneal space and pilonidal cysts has the following advantages: minimally invasive procedure, low complication rate, no need in general anaesthesia, can be used in elderly and in patients with significant co-morbidities.

Conclusions. Percutaneous drainage treatments are characterized by the following advantages: low-traumatic, low complication rate, no need for general anesthesia, the applicability in elderly patients and in severe comorbidity. Percutaneous drainage method allowed for treatment without open surgery in 87.1% of patients with abscesses of the abdominal cavity in 86.5% of patients with pancreatic pseudocyst

and acute fluid accumulation in acute pancreatitis and in 97.3% of cases with abscesses and cysts the liver. Percutaneous sanitation pilonidalnoho acute abscess is an effective method of preparing the patient for deferred radical surgical treatment pilonidalnoyi cyst.

Key words: puncture and drainage, echography control, cavitary formations, acute pilonidal abscess.

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ANALYSIS OF MORTALITY IN PATIENTS WITH SEVERE TETANUS AND IMPACT OF INFUSION ON THE RESULTS OF THEIR TREATMENT

Introduction. The tetanus remains a challenging problem in nowadays medicine due to high mortality rate ranging within 31% and 72%. In Ukraine, the tetanus mortality is over 60% with no downturn trend. *Objective* – to analyze severe tetanus mortality timing, to compare the postmortem data of these patients and to assess the impact of restrictive infusion regimens on the outcome of treatment.

Materials and methods. We reviewed the histories of 157 (42 men, 115 women) patients with severe tetanus aged 27 to 86 years (average – $64,81 \pm 11,43$ years). Patients were assigned in 2 groups. The main (prospective) group (n = 34) consisted of patients treated in VAIT from 2000 to 2010 according to integrated algorithm of managing patients with severe tetanus which had been introduced into medical practice since 2000. The control (retrospective) group (n = 123) consisted of patients

treated before the reference period. 114 (72,6 %) patients died. The statistical analysis of the data was done using a SPSS 13 package (©SPSS Inc.).

Results. We analyzed the autopsy protocols of 114 patients died from tetanus. The highest mortality rate (79,8%) was observed in VAIT patients during the first 9 days of hospitalization. The immediate cause of early (1-4 days) mortality was acute respiratory failure with underlying upper airway obstruction. The mortality within 5 and 9 days was caused by cerebral edema and acute cardiovascular failure. Since 2000, the practical health-support practice has included the integrated algorithm of management of patients with severe tetanus. Within 2000-2010, we observed a 1.3-times increase in using restrictive regimens of infusion therapy. According to the results of multiple Cox regression analysis in patients with severe tetanus, the most important aspect for improvement of treatment outcome was the combined using the restrictive regimens of infusion- detoxification therapy ($\beta = -0,599$, $p = 0,005$), continuous antitetanotoxic therapy ($\beta = -0.669$, $p = 0.004$), and protection of the upper respiratory airways during first 24 hours of treatment ($\beta = 0,007$, $p = 0,039$).

Conclusion. Application of restrictive regimens of infusion-detoxification therapy, the increase in multiplicity of administration of tetanus vaccine during the convulsive period of the disease, and early protection of the upper respiratory tract significantly reduce the mortality from 76,4% to 58,8% ($p = 0,041$) and change the survival function with increasing the life expectancy of patients (log-rank criterion, $p = 0,023$).

Key words: tetanus, efficiency, infusion therapy, mortality.

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SURGICAL TREATMENT THE CHILDREN WITH COMPLICATION BCG-LYMPHADENITIS

Introduction. In Ukraine a mass of vaccination of newborns against tuberculosis is carried out with monovalent vaccine of Russian production BCG-M at this application there is inessential percent (to 0.06%) of complication in the form of tuberculosis lymphadenitis of the peripheral lymph nodes. *The purpose* of the work is to develop optimum algorithm of medical surgical means of complication, BCG-lymphadenitis of the children of the early age group.

Materials and methods. In 2010-2013 years 167 first vaccinated children at the age of 2 months old to 3 years old included were examined who underwent the course of the treatment in the surgery of emergency for the reason of the complication BCG-vaccine in the form of tuberculosis lymphadenitis of the peripheral lymph nodes. To the clinic all children with complication BCG-vaccine were sent by children's phthisiologist after had spent all side examination – radiography of the organs in pleural cavity, tuberculin diagnostic (Mantoux test), ultrasonic examination of the damaged lymph nodes and general accepted clinical and laboratory research. The localization of infiltrate and abscess of the peripheral lymph nodes, which appeared in 3-4 weeks in the inguinal part, were found in 113 (67,6%) children, in the supraclavicular – 34 (20.4%) and subclavicular area, neck lymph nodes – 17 (10.2%), cold abscess of shoulder lymph nodes – 3 (1.8%).

In presurgical period all children received specific therapy prescribed by the phthisiologist (pyrazinamide, isoniazid, borate, carsil, rifamicyn, amikacin). After had spent clinical and laboratory examination and differential diagnostic the children were operated with the general anesthesia. Into the postoperational wound the powder of antibiotic of rifampicin or isoniazid was put and then the surgical wound was sutured up. In the postoperational period the children continued to get the specific therapy had been prescribed by the pfthisiologist before the operation and also the general restorative therapy – complex vitamin of the group “B” and “C”, the

medicines which stimulate the immunity of a child. On the place of the postoperative wound the bandage with solution of dymexide and rifampicin was put.

Results. It is established that the number of complications of the first vaccine children in 2010-2013 years has risen. Among the examined children there were a lot of children at the age of 4 months old to 12 months old. It is revealed that the frequency and the character of the postvaccinated complications depends on the qualification of the average medical staff and the quality of the vaccine.

Conclusion. The spent retrospective analysis of the complications of BCG-vaccine for children of the early age allows us to make the conclusion that after clear exclusion of possible contraindication to carry out the vaccine it is necessary to pay attention on the technic of intracutaneous introduction of the serum and also the selection of the place of carrying out the injection. Taking to the attention the less percent of the possible complications during the carrying out the initial BCG-vaccine by the vaccine of Russian production we think that it is better to carry out the vaccine of Russian vaccine (BCG-M). The unfavourable moments which appear in the postoperative period in the children after BCG-vaccination may be prevented by the careful history taking, the estimating of the child's health before the vaccination and timely address of the parents to the hospital. All these moments give the opportunity to avoid the development abscess damaged lymph node and appearing the fistula.

Key words: children, BCG-vaccination, lymph nodes, abscess.

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FUNCTIONAL DYSPEPSIA IN CHILDREN: FREQUENCY, STRUCTURE, PECULIARITIES OF THE CLINICAL COURSE AND RISK FACTORS

Introduction. In the modern society various psychosomatic disorders have become widespread. Among them the most common ones are the diseases of the digestive tract – functional dyspepsia (FD). The objective of the research was to study the structure, frequency, risk factors and peculiarities of the FD clinical course in adolescents.

Materials and methods. Among 1575 of patients of the gastroenterological profile undergoing inpatient treatment at Vinnytsia City Hospital since 2009 till 2011, 421 (26,73%) children suffered from FD whose diagnosis was established according to the Rome III criteria [Tack, Talley, 2013]. The research involved 100 children (14-18 years old). 42,00% of the children had an epigastric pain syndrome (EPS), 28,00% suffered from a postprandial distress-syndrome (PDS) and 42,00% of the patients had both EPS and PDS.

Results. Abdominalgias could be observed in all the patients. Mild and moderately intense, aching and pressing pains mostly after meals were observed in the patients with PDS significantly oftener while intensive piercing, hunger pains after the emotional load were observed in the children with EPS, and moderate intense, cutting or aching pains without regard to meals were established on combination of PDS and EPS symptoms. The children with PDS mostly complained of loss of appetite, sickness, nausea, quick saturation and unpleasant postprandial fullness.

From the medical history it is known that 39 patients (39,00%) had four meals daily, the others ate irregularly: they missed some meals, ate sandwiches, drank carbonated “colour” beverages, chewed gums; there were no first courses in the ration, fullness was observed during the late evening. It was revealed that the examined were hereditary tainted with chronic gastroduodenitis, stomach and duodenal ulcer both from the mother's and father's side.

The secretory function was deranged in 29 patients (29,00%). One third of the adolescents with EPS (36,67%) had overacidity that significantly differed from the number of children with PDS (7,14%). H.pylori infection was revealed in one third of the patients with FD (29,00%). The persons with EPS were more often H.pylori-infected as compared to the other categories of FD.

Conclusion. The FD clinical categories are accompanied by various syndrome-complexes characterized by a different secretory function of the digestive tract and H.pylori infection that should be determined on examination of the children and considered on prescription of the corrective treatment to such patients.

Key words: functional dyspepsia, clinic, children, risk factors.

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EFFICACY OF ANTI-INFLAMMATORY GEL AND MOUTH RINSE FOR PREVENTIVE CARE AND TREATMENT OF PATIENTS WITH GENERALIZED PERIODONTITIS

Introduction. To date, periodontitis is considered the most common pathology that contributes to development of cardiovascular, gastrointestinal, and endocrine complications. Therefore, this dentofacial pathology is not solely medical, but also a social problem. The purpose of this study is to identify periodontal pathogenic microorganisms, their sensitivity to antimicrobial medicines, and clinical efficacy of such medicines.

Materials and methods. The study was conducted in thirty 35-55 year-old patients with chronic moderate and severe generalized periodontitis. They were assigned to two equal (main and control) groups, each consisting of 15 patients. All patients were assessed H.R. Mühlemann and A.S. Mazor sulcus bleeding index (SBI) and C. Parma papillary-marginal-alveolar index (PMA). After removal of dental plaque, patients from the main group used Tebodont mouth rinse and applied Tebodont gel

(Switzerland), while patients from control group used Metrogyl Denta (India) gel and Lesnoy balsam mouth rinse (Russia). Samples of discharge from the pockets were taken with special sterile loop-shaped disposable probes at a 2-mm depth. The material was inoculated on blood agar, Chistovich, Endo, and Saburo medium adding 1 ml mixture of microorganisms diluted 1:100. The pathogens were identified with Vitec² Compact 15 bacterial identification system. Periodontal status was determined on 7-th and 14-th Day of the study and 1 month after treatment completion.

Results. Inoculated media of 3 patients of 15 from the main group presented *S.mutans* along with *Candida*, and agar of two patients revealed saprophytic staphylococci. *C.albicans* culture was identified with the bacterial identification system. *Candida* fungi on Saburo medium were found sensitive to tea tree oil (a growth suspension area was within 20-21 mm), and moderately sensitive to metronidazole and chlorhexidine (the area was within 15 mm).

Before treatment, the inoculated pathogen showed a 107 growth rate, and microscopic studies in all patients revealed formation of so-called "growth tubes." After 14 days of treatment, the periodontal pockets were free of pathogens, and clinical observation did not reveal any bleeding, swelling, or discharge. The patients from control group demonstrated growth of *C.albicans*, *S.mutans*, and *S.aureus*, but most of all diagnosed pathogens were *C.albicans*. Regular treatment resulted in *C.albicans* growth rate 105 and 104; the RB-factor evidencing continued reproduction of the pathogen was registered in 15-20% of cells.

According to the baseline medical examination, PMA in the main study group was $74.34 \pm 1.56\%$, and $73.98 \pm 0.39\%$ - in the control group; SBI was 2.48 ± 0.52 and 2.51 ± 0.71 in the main and control groups accordingly, that evidenced serious inflammation in periodontal tissues, including the gums.

After a month of treatment, PMA decreased up to $5.7 \pm 2,06$ in the main study group and up to 15.1 ± 2.1 in the control group ($p < 0.05$), SBI downed to 0.1 ± 0.1 and 0.2 ± 0.6 accordingly ($p > 0.05$).

Conclusion. The comparative clinical study revealed that Tebodont gel and mouth rinse had apparent anti-inflammatory and antimicrobial properties.

Key words: Tebodont anti-inflammatory gel and mouth rinse, paradontopathological microorganism, generalized periodontitis.

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THE PROGRAMS OF COMPLEX PERIOPERATIVE TREATMENT OF PATIENTS WITH TOTAL PURULENT PERITONITIS

Introduction. Progress in the treatment of patients with widespread purulent peritonitis (WPP) should be directed to the development of optimal treatment programs aimed at correcting factors initiating multiple organ failure. The *aim* - to conduct a comparative analysis of the treatment of patients with WPP when using optimized and traditional programs based on dynamic monitoring of markers of systemic inflammation, endotoxemia and intraperitoneal pressure (IPP) and evaluation of the frequency of postoperative complications.

Materials and methods. Cposterihaly 137 patients with urgent surgical pathology, which was complicated by the development of WPP. Patients were divided into representative by gender and age, nosology and severity indicators on the control (72 patients, mean age $47,2 \pm 3,72$ years) and basic (65 patients, mean age $48,1 \pm 4,26$) group. Comparative analysis of the effectiveness of the proposed treatment program perioperative patients with WPP performed based on dynamic monitoring of markers of endotoxemia. Patients with WPP group because the purpose of a nasogastric tube decompression digestive solution was administered simultaneously simetykon 10 ml, and then every 2 hours for an additional 5 ml; preoperative abdominal decompression was performed by laparoscopic drainage of the peritoneal cavity with peritoneal lavage performance of antimicrobial agents (dekanan, palisan) at a speed of 1000

ml/h. with simultaneous catheterization retroperitoneal fiber microirrhators and regional antibiotic therapy in combination with interstitial electrolytic ions direction of antimicrobial agents.

Results. The comparative mark of the traditional and offered preoperative medical programs was carried out on the base of the observation by the markers of the system inflammatory, the endogenous intoxication and the dynamic of the level of the intrauterine pressure of 137 patients with total purulent peritonitis, the high effect of the optimized program of the complex treatment was established, which allowed us to perform the correction of the appearing metabolic disease and to reduce sufficiently the frequency of the complicated running in the postoperative period.

Conclusion. The use of processed applications of combined treatment with WPP can reduce treatment time and number of repeated surgical interventions, accompanied by a decrease in performance and overall postoperative mortality and reduce signs of endotoxemia, systemic inflammatory response and abdominal hypertension.

Key words: traditional and optimization treatments programs, total purulent peritonitis, endotoxemia, systemic inflammatory response, intraabdominal pressure, complications of postoperative period.

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ANTHROPOLOGIC EXAMINATIONS IN ASSESSMENT OF MOTHER'S AND CHILD'S PHYSICAL STATE AND ITS ROLE

Introduction. The purpose of this research is an attempt to find out the features of anthropometric parameters of newborns in Vinnitsia and their connection with the features of mother's structure of body.

Materials and methods. Anthropometric research was conducted on the generally accepted chart of measuring of longitudinal, transversal, girth and gravimetric parameters of women's body. All inspected were divided into 7 somatic types (dynamic, stenoplastic, picnic, mezoplastic, euoplastic, subathletics, athletics) and incorporated in four constitutional types: leptosomic, mezosomic, megalosomic and indefinite. 176 somatically healthy women age from 18 to 35 years were conducted by complex anthropometric research at the Vinnytsia town clinical maternity hospital №2. As a result of anthropometric researches of women calculations mass-length index – index of Quetelet or index of mass of body (IMB) were conducted.

Then on the first day of life 102 newborn, their mothers were somatically healthy women from the probed group, were inspected.

Results. The women of megalosomic constitutional type had such anthropometric indexes: growth – $168,8 \pm 0,3$ sm, mass of body – $67,8 \pm 0,3$ kg, circumference of breasts – $86,7 \pm 0,2$ sm, width of shoulders – $35,1 \pm 0,1$ sm, width of pelvis – $30,1 \pm 0,1$ sm. Mean value of index of Quetelet – $24,0 \pm 0,2$ kg/m², muscular fabric – $38,7 \pm 0,2\%$ and bone $15,0 \pm 0,2\%$, relative mass of fatty fabric was determined within the limits of $27,3 \pm 0,3\%$.

To leptosomic constitutional type were taken women who had such anthropometric information: growth – $160,7 \pm 0,4$ sm, mass of body – $48,9 \pm 0,2$ kg, circumference of breasts – $78,8 \pm 0,3$ sm, a circumference of buttocks – $90,2 \pm 0,3$ sm. The transversal diameter of thorax – $23,8 \pm 0,1$ sm, width of shoulders – $33,4 \pm 0,1$ sm, a width of pelvis – $26,3 \pm 0,2$ sm. The mean values of index of Quetelet were – $20,3 \pm 0,3$ kg/m². Women of leptosomic constitution had small maintenance of fatty – $19,3 \pm 0,2\%$ and muscular – $41,3 \pm 0,2\%$ components, more the bone component – $18,4 \pm 0,3\%$.

To mezosomic of constitutional type were taken women who had the followings anthropometric indexes: growth – $157,4 \pm 0,6$ sm, mass of body – $59,2 \pm 0,5$ kg, circumferences of thorax – $86,4 \pm 0,2$ sm, circumference of buttocks – $98,3 \pm 0,3$ sm, transversal diameter of thorax – $24,9 \pm 0,2$ sm, width of shoulders – $34,9 \pm 0,1$ sm, width of pelvis – $26,6 \pm 0,1$ sm. The mean value of index of Quetelet – $23,6 \pm 0,2$

kg/m². Mesosomic constitution had higher maintenance of fatty – 28,1±0,5%, muscular – 44,3±0,5% and bone – 16,9±0,3%.

To indefinite constitutional type were taken women who had the followings anthropometric information: growth – 172,9±0,4 sm, mass of body – 72,9±0,4 kg, circumference of thorax – 91,2±0,4 sm, circumference of buttocks – 107,1±0,3 sm. The transversal diameter of thorax – 28,8±0,2 sm, width of shoulders 36,9±0,2 sm, width of pelvis – 31,2±0,2 sm. The mean value of index of Quetelet – 24,7±0,3 kg/m². Women of this type had higher maintenance of fatty – 37,0±0,3%, muscular – 43,5±0,2% and bone 19,6±0,2%.

The middle index of IMB for the inspected women was 22,4 g/sm². The most value of IMB was observed in the women of euriplastic – 26,9 g/sm² and indefinite somatically types – 23,3 g/sm², least – for pregnant of adynamic somatically – 18,49 g/sm², for other women of IMB hesitated within the limits of 20,24-21,8 g/sm².

Complex anthropometry was conducted with 102 newborn (54 boys and 48 girls). Middle mass of children was 3370±370,23 gr. Middle length of body – 55,27±1,87 sm. Middle MLI – 64,5±2,76. A middle circumference of heard is 34,29±1,09 sm. A middle circumference of thorax – 33,24±1,18 sm.

The most MLI was characterised for newborns, whose mothers had adynamic (63,7), athletics (62,8) and euriplastic somaticalle types (64,9), less MLI for women with subathletics (60,2), mezoplastic (61,9) and indefinite (60,1) somaticalle types. MLI in newborn, whose mothers had stenoplastic somatically types, was 58,92 gr/sm. This index specifies to the I degree of hypotrophy of the newborns.

Conclusion. Presence of overweight is a characteristic sign for woman with euriplastic somatically type, and presence of chronic power insufficiency – for women with adynamic somatically type. Mass-length index is the most informing and widely used in pediatric practice of indexes of estimation of physical status of children, especially at diagnostics of such pathology, as a syndrome of delay of foetus' development. The basic index of physical development of newborns IMB depends from mass of pregnant body. Consequently, newborn, whose mothers had adynamic, athletics and the euriplastic types of constitutions, had the most value of

MLI, and newborns whose mothers had stenoplastic somatically type – had less value of index, below the norm.

Key words: pregnancy, newborns, women's somatically types, anthropometry.

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PERSONALITY WOMEN'S FEATURES WITH THE THREAT OF TERMINATING PREGNANCY

Introduction. The purpose of this research is studying of intercommunication of individual psychological properties of expectant mothers with their features of motion of pregnancy.

Materials and methods. 16 women with the threat of terminating pregnancy on early terms aged from 18 to 38 were conducted by us with the help of a complex inspection in the gynaecological department at the Vinnitsa town clinical maternity hospital №2, where they were on the stationary treatment.

We used: Leongard – Shmishek's personality questionnaire for diagnostics of the type of accentuation of personality;

Aizenko's personality questionnaire, it is directed on the exposure of extraversion – introversion and neurotism;

Shilberger – Khanin's scale of alarm, it is a method of self-appraisal of situational anxiety;

a gestational dominant is used to provide the orientation of all reactions of organism on creation of optimum terms for development an embryo and then fertility.

Results. Experimental women were proposed to answer the questions according to the Leongard – Shmishek's personality questionnaire. Five inspected women have

obvious accentuation, ten women have a tendency to accentuation according to the emotyvnyi type, eight clients have marked tendency and three women have obvious accentuation according to the ciklotomnyi type.

Clients answered the questions according to the Aizenko's personality questionnaire. During the research it was discovered five extraversion personalities and eight - introversion. Seven pregnant women have emotional stability and six have neurotism. Shilberger – Khanin's scale of alarm was used for the estimation of the state of the inspected women during that period of time. Three women with the burdened obstetric and gynaecological anamnesis have a low situational anxiety.

The general type of the gestational dominant was created as the result of studying of anamnesis information; clinic-psychological inspections of the expected mothers and conversations with them. Most women have an optimum type of dominant according to the way of life during the pregnancy, to future birth, to the child, to nurse, to feel herself a mother, the husband's (relatives', friends') attitude before the birth. The euphoric type of dominant it is expectant mother's attitude to herself and extraneous people's attitude toward pregnancy. The gipogestognozychnyi type it is expectant mother's attitude to the way of life during the pregnancy.

Conclusion. Practically healthy expectant women who are in a state of psychological comfort have an optimum type of gestational dominant. It is necessary to include expectant women, who have euphoric, gipogestognozychnyi and anxious types of gestational dominant, to the "group of risk". The high differentiating ability in the psycho diagnosis was found out by means of offered methods not only in the state of adaptation and disadaptation of pregnant women with the threat of the terminating pregnancy but also features of the pictures of themselves, which induce overvalue of themselves and their own possibilities.

Key words: pregnancy, threat of the terminating pregnancy, accentuation, anxiety, gestational dominant, personality, temperament.

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**MINIMALLY INVASIVE ENDOSCOPIC TRANSPUPILLARY
INTERVENTIONS IN CASE OF OBSTRUCTIVE JAUNDICE IN ELDERLY
AND SENILE PATIENTS**

Introduction. *The work objective* is to analyze the causes of obstructive jaundice in elderly and senile patients, features of the clinical course and results of treatment by endoscopic transpupillary methods.

Materials and methods. The results of surgical treatment of 281 patients that underwent transpupillary interventions for obstructive jaundice of different genesis were summarized. Obstructive jaundice of benign genesis was observed in 253 (90%) patients, of malignant genesis – in 28 (10%) patients.

Results. Obstructive jaundice of benign genesis was observed in 253 (90%) patients, of malignant genesis – in 28 (10%) patients. Among the patients with obstructive jaundice of benign genesis the choledocholithiasis was revealed more often – 201 (71,5%) cases, stenotic papillitis manifested in 19 (6,8%) of cases, corrosive strictures of extrahepatic biliary tracts – in 11 (3,9%) cases, duct compression caused by chronic pancreatitis – in 3 (3,9%) cases, postoperative deformations of extrahepatic biliary tracts – in 3 (3,9%) cases, cholangitis – 14 (5%) cases, benign tumours of the major duodenal papilla – in 2 (0,7%) cases. The malignant nature of obstructive jaundice was caused by cancer of the head of the pancreas in 12 (4,3%) patients, by tumour of the duodenal papilla – in 7 (2,5%) patients, by tumors of the porta hepatis and cancer metastases in liver in 9 (3,2%) patients. The patients underwent retrograde pancreatography, endoscopic papillosphincterotomy and mechanical lithotripsy and lithoextraction, endobiliary stenting. Complications during transpupillary interventions occurred in 38 (13,5%) patients.

Conclusion. Endoscopic transpapillary interventions in elderly and senile patients are effective in 60% of cases and is the method of choice under the conditions of current surgical hospital with modern endoscopic equipment. Current examination methods of the biliary permeability allow to choose an optimal strategy for treatment of obstructive jaundice. Endoscopic transpapillary interventions constitute the first stage of assistance to patients with obstructive jaundice and if radical solution of the situation is impossible they should provide biliary decompression.

Key words: obstructive jaundice, choledocholithiasis, endoscopic papillosphincterotomy, lithoextraction, lithotripsy, nasobiliary stenting.

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**TORACO-ABDOMINAL TRAUMA IN PRACTICE OF THE URGANCE
SURGEON - OPTIMIZATION OF ALGORITHM OF RENDERING
ASSISTANCE**

Introduction. The toraco-abdominal trauma remains of the actuality problem in urgance surgery. Its frequency reaches to 30 % of all traumas. The purpose of our work is the analysis of results of treatment toraco-abdominal trauma and improvement of medical - diagnostic algorithm at the yielded category of patients.

Materials and methods. Surgical intervention on organs of thorax, organs of cavity abdomen and retroperitoneum spaces is made at 115 patients with toraco-abdominal trauma. At 25 (21,7 %) victims predominant was a trauma of organs of a thorax, at 90 (78,3 %) - accident of organs of cavity abdomen, at 14 (12,2 %) - identical on weight biotically dangerous damages of members of chest and belly lumens.

Victims with signs of acute respiratory insufficiency and a proceeding bleeding which lives threatened, operated in urgent order on a series with carrying out of antishock therapy, the others - after carrying out of short-term preoperative preparation. In such situation under equal other conditions of intervention began from realisation thoracotomy

The intrinsic bleeding and presence of wound making through into a belly lumen was the basic indication to prime performance laparotomy. The basic attention gave to a stop of a bleeding and mending of damaged members.

Results. Complications have arisen at 17 (14,8 %) the operated: a posttraumatic pneumonia - at 7 patients, empyema pleurae – at 2, a progressing peritonitis - at 5, a suppuration of an operational wound – at 3. Have died during the first hours before operation and in the early postoperative season 8 (6,9 %) victims. Death principal causes were shock at 2 cases, a massive bleeding - at 3, acute respiratory insufficiency - at 3. In serotinal terms a principal cause of death 4 victims had is purulent-septic complications.

Conclusion. Surgical intervention at victims with toraco-abdominal trauma is necessary for carrying out along with realisation of antishock actions, and in the presence of a bleeding it compounds their basis.

It is necessary to evolve predominant, competing and accompanying damages at definition of surgical tactics. Operation scoping should be based on the data of clinical, additional methods of research and an assessment of weight of the patient.

Application of simple tool methods of research (radiological, laparocentesis, pleural puncture, diagnostic laparo - and toracoscopy) gives the chance to position the correct diagnosis and to avoid errors in a kind unfounded laparo - and toracotomies.

The basic circumstances which complicate flow toraco - traumas and death principal causes were shock, a bleeding, acute respiratory insufficiency and a peritonitis.

Key words: toraco-abdominal trauma, diagnostic, treatment.

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THE PATIENTS' QUALITY OF LIFE AFTER SURGICAL TREATMENT OF INGUINAL HERNIA

Introduction. The experience accumulated in the world necessitates study of the life quality of the patients with inguinal hernia after surgical treatment.

Materials and methods. 201 patients with inguinal hernia aged $59,05 \pm 12,88$ years were examined. They were divided into the main group (patients who underwent preperitoneal alloplasty of the inguinal canal walls) and comparison group (treated by I.L. Lichtenstein's method). The quality of life was evaluated using SF-36 questionnaire before the operation and within 1 month – 3 years after the operation. The scores of 8 scales and 2 scores (of Physical and Mental Health) of SF-36 were standardized.

Results. Physical (PH) and Mental Health (MH) scores of the patients with inguinal hernia made up $45,38 \pm 6,75$ and $51,72 \pm 7,55$ before the operation. The questionnaire results of the patients 1 month after the operation showed that these Health Components improved both in the main and comparison groups ($p < 0,05$). MH in the main group ($60,58 \pm 4,58$ scores) was significantly higher ($p < 0,05$), than in the patients of the comparison group ($57,82 \pm 5,99$ scores). During regular questioning of these patients 6 months after the operation significant improvement of PH and MH could be observed ($p < 0,05$) as compared to the previous questioning and to the similar data of the comparison group. Patients' questioning 1 year after the operation showed that PH scores became significantly better in both groups. MH scores improved ($62,17 \pm 3,62$ scores) as compared to the results of the six-month questioning of the patients from the main group ($p < 0,05$) and improved insignificantly up to $61,07 \pm 4,08$ scores in the patients of the comparison group ($p >$

0,05). PH and MH scores during this questionnaire period were significantly higher in the patients of the main group. Determination of the Health Components in the patients 2 years later showed their improvement as compared to the results of the previous questioning of the patients from the comparison group ($p < 0,05$). PH in the patients of the main group was significantly higher than in the patients of the comparison group within 2-3 years. MH did not differ significantly in these groups during the same period.

PF of the examined improved significantly 1 month after the operation in both study groups and it grew from $47,66 \pm 7,15$ up to $51,20 \pm 3,29$ scores in the main group, and only up to $50,22 \pm 3,12$ scores ($p < 0,05$) in the comparison group. Later a significant increase of PF could be observed in the main group within 1 year of questioning ($p < 0,05$). During the first 6 months RP of the patients from both groups improved significantly after the operation ($p < 0,05$). BP scores improved during the whole observation period in the main group as compared to the comparison group ($p < 0,05$). Significant increase of GH could be observed among the patients of both groups 1 month, 6 months and 2 years later ($p < 0,05$).

Analyzing MH components it was established that SF, RE scores were significantly higher in the patients of the main group ($p < 0,05$) within 1 month – 1 year. VT scores 6 months later and MH scores 1 month later were significantly higher in the patients of the main group ($p < 0,05$).

Conclusions. In the patients with inguinal hernia irregardless of the type of the inguinal canal plasty the quality of life improved significantly after the operation. Physical Health scores were higher in the patients after preperitoneal alloplasty of the inguinal canal 6 months, 1 and 3 years ($p < 0,05$) later; Mental Health scores were higher in the patients after preperitoneal alloplasty of the inguinal canal 1 month – 1 year later ($p < 0,05$). Physical Health score increased rapidly within 1 month – 6 months of the observation and Mental Health score – within 1 month after the operation.

Key words: quality of life, inguinal hernia, repair of I.L.Lichtenstein, preperitoneal aloplasty, SF-36 questionnaire.

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APPROACHES TO IMPLEMENTATION OF ESOPHAGEAL REPLACEMENT IN CASE OF STENOSING DISEASES OF ESOPHAGUS

Introduction. There are a lot of esophagoplasty methods in the world. But there is no single opinion as to the choice of one or the other esophagoplasty method for a certain situation. Esophagoplasty can be performed with the gastric tube, small and large intestine. That's why the transplant choice while creating an artificial esophagus, its conduction pathway, location, types and methods of esophageal-organ anastomosis formation remain the most debatable issues.

Materials and methods. A retrospective analysis of the reconstructive and restorative operative interventions in 160 patients with stenosing esophageal diseases was conducted. There were 36 patients with postburn strictures of esophagus, 3 – with postoperative scar strictures, 5 – with strictures caused by reflux-esophagitis, 38 – with esophageal achalasia, 64 – with esophageal cancer, 3 — with esophageal leiomyoma and 11 patients with esophageal diverticulum. All the patients underwent complete clinical laboratory examination and instrumental methods of examination (ultrasound, spiral computed tomography) were applied with obligatory examination of the barium passage and determination of the esophageal obstruction degree. Before the main operation stage it was obligatory for the patients subject to esophagoplasty to undergo the proposed fluid therapy 24 hours before the operation, intraoperatively

and during the postoperative period that included slow intravenous introduction of the solution of Mexidolum, Tivortin and nicotinic acid twice a day.

Results. Esophagoplasty with the large intestine was performed in 28 patients. At clinic it is preferred to perform isoperistaltic retrosternal esophagoplasty with the colon segment consisting partially of the ascending, transverse and part of the descending colon with preservation of blood supply due to the left colic artery. During the preoperative period for studying of the large intestine angioarchitecture the angiographic study was carried out (*Invention Patent of Ukraine No. 103847 of 25.11.2013 "Method of preparing the colonic transplant for esophagoplasty"*). At clinic antireflux anastomosis between the transplant lower end and anterior wall of stomach in the antrum is formed according to the clinic method (*Invention Patent of Ukraine No. 103862 of 25.11.2013 "Method of forming antireflux cologastroanastomosis"*). Postoperative complications included: esophagocolic anastomotic leak (1), partial esophagocolic anastomotic leak (2), during late postoperative period - stricture occurrence. 3 patients died. Esophagoplasty with the stomach was performed in 49 patients. We prefer transhiatal extirpation of the esophagus and plasty with the gastric tube according to Chernousov as modified by the clinic method and namely the original method of stomach transplant lengthening (*Useful Model Patent of Ukraine No.85680 of 25.112013 "Method of stomach transplant lengthening"*). Complications after plasty with the stomach included: partial esophagocolic anastomotic leak in 5 patients after Lewis operation and in 2 patients after plasty according to Chernousov. 1 patient died.

13 patients underwent developed esophagoplasty with the ileocecal segment and preservation of blood supply due to the iliac colonic artery and vein (*Useful Model Patent of Ukraine No.78206 of 11.03.2013 "Method of esophagogastroplasty with the ileocecal segment"*). This type of plasty was applied to 10 patients with cancer of the lower third of esophagus and stomach with invasion into the transverse colon and to 3 patients in case of combined burn injury of the esophagus and stomach and impossibility of using the large intestine segment due to a non-marked marginal artery.

Conclusion. The patients subject to esophagoplasty should obligatory undergo complete and complex laboratory examination as well as instrumental examination during the preoperative period including 3-D spiral computed tomography and angiography. In our opinion, the best method of esophagoplasty with fewer postoperative complications is the plasty with the stomach according to Chornousov as modified by the clinic with formation of only one esophagogastroanastomosis out of the pleural cavity. If it is impossible to use stomach and in case of a well-marked marginal artery the isoperistaltic retrosternal colonic plasty with preservation of blood supply due to the left colic artery is indicated. The proposed method of esophagogastroplasty with the ileocecal segment is used on simultaneous injury of the esophagus and stomach, its use provides creation of an appropriate reservoir (blind gut instead of stomach), antireflux mechanism and allows to prevent occurrence of peptic ulcers and strictures of the transplant.

Key words: reconstructive surgery, stenosing diseases of esophagus, stomach, colon, ileocecal segment.

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THE PATIENTS' QUALITY OF LIFE AFTER SURGICAL TREATMENT OF UMBILICAL HERNIA

Introduction. The experience accumulated in the world necessitates study of the life quality of the patients with umbilical hernia after surgical treatment.

Materials and methods. 208 patients with umbilical hernia aged $56,78 \pm 13,8$ years were examined. They were divided into the main group (patients who underwent alloplastic closure of the hernia defect) and comparison group (patients after

alloplastic closure). The quality of life was evaluated using SF-36 questionnaire before operative interventions and within 1 month – 3 years after the operation. The scores of 8 scales and 2 scores (of Physical and Mental Health) of SF-36 were standardized.

Results. Physical and Mental Health scores of the patients with umbilical hernia made up $44,59 \pm 1,46$ and $51,4 \pm 2,08$ before the operation. 1 month and 6 months later the patients from the main group showed significant improvement ($p < 0,05$) of both Health Components as compared to the previous results. The Physical Health Component in the comparison group increased insignificantly ($p > 0,05$). 1 year after the operation the Mental Health scores became significantly better in both groups. The Physical Health scores improved in the patients of the main group ($p < 0,05$) and insignificantly – in the patients of the comparison group ($p > 0,05$).

2 years later the Mental Health Component was significantly higher in the patients of the main group than in the patients of the comparison group and the Physical Health Component did not differ significantly. This fact can be explained by exclusion of the patients with recurrent hernia, occurring within the first year, from the study. 3 years after the operation significantly higher scores of both components were established in the patients of the main group as compared to those of the comparison group.

"Physical Functioning" of the examined improved significantly 1 month after the operation in both study groups and 3 years after the operation it made up $46,75 \pm 1,93$ and $45,09 \pm 0,5$ scores in the group of patients after autoplasty and alloplasty of umbilical hernia, respectively. "Role Physical" differed from the score before the operation in all the patients only 1 year later ($p < 0,05$) and significantly increased thereafter. "Bodily Pain" and "General Health" scores in the patients of the main group were better than in the comparison group.

1 month after the operation "Vitality" increased significantly up to $54,89 \pm 1,69$ scores in the main group and up to $50,33 \pm 1,81$ scores in the comparison group. There were no significant changes in both groups 3 years later. "Social functioning" of the examined started increasing 1 year after the operation ($p < 0,05$). "Role Emotional" scores during the first 2 years were significantly better in the patients of

the main group. "Mental Health" increased in the comparison group but there was no significant difference in the results of individual questionnaires. In the main group this score increased significantly only 2 and 3 years after the operation.

Conclusions. In the patients with umbilical hernia irregardless of the type of the hernia defect plasty the quality of life improved significantly after the operation. Recurrent hernia deteriorates the patients' quality of life after the operation. Physical Health scores were higher in the patients after alloplasty of the hernia defect 6 months, 1 and 3 years ($p < 0,05$) later; Mental Health scores were higher in the patients after alloplasty of the hernia defect within all the questionnaire periods ($p < 0,05$). Physical Health score in the main group increased rapidly within all the observation periods and in the comparison group its rapid increase was observed only 1 year after the operation.

Key words: umbilical hernia, life quality, alloplastic, SF-36 questionnaire.

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EXPERIENCE OF USING HIGH-INTENSITY LASER FOR SANATION OSTEOMYELITIS WOUND WITH CHRONICAL DEFICIENCY OF IODINE

Introduction. Finding new ways to treat osteomyelitis that combine effective stimulation of microcirculatory vascular bed limb, strengthening of antibiotics on the microflora in inflammation centre, stimulation of imunoprptection processes of the body, reduce of toxicity is warranted. In particular, the use of minimally invasive, sanifying, laser action make it possible to avoid significant traumatic operations in the treatment of malnourished patients with long osteomiyelityc illness.

Materials and methods. Clinical material is based on inspection and treatment of 26 patients with posttraumatic osteomyelitis of lower extremities with chronic deficiency of iodine, in 11 cases of which the prolonged regional endarterial infusion and high-intensity laser technologies were used in treatment. High efficiency of the offered method of treatment allows to abandon in most cases incapacitating operations and to save the basic functions of lower extremities, is proved.

Results. As a result of the treatment acceleration of the dynamics of wound Process among patients in the second group, which was shown to reduce the term fistula healing was observed. Radiological stated reparative changes and accelerate bone regeneration where stated. In patients with posttraumatic osteomyelitis clinic with an increase in toxicity in the blood the level of middle molecules sharply increased - to $0,442 \pm 0,05$ in patients of the first (control) group and $0,445 \pm 0,06$ in the second (main) group; healthy - $0,333 \pm 0,04$. In patients with posttraumatic osteomyelitis clinic on the background of reduction of the total number of lymphocytes (up to $21,6 \pm 0,64$, healthy - $44,4 \pm 0,79$) there has been a sharp decrease in the number of Tx with a moderate decrease in Tc and a corresponding reduction to $1,02 \pm 0,14$ in patients of the first group and $1,04 \pm 0,15$ in the second (main) group (healthy $1,34 \pm 0,12$) their ratio (Th/Tc). In the blood increases the level of CIC to $32,46 \pm 1,64$ in patients of the first group and $34,76 \pm 1,84$ in the second (main) group; healthy $16,17 \pm 0,53$. After treatment there is a tendency to normalization of the ratio Th/Tc to $1,20 \pm 0,12$ in the first group of patients and to $1,24 \pm 0,14$ - in the second (main) group. Reduced levels of CIC in blood - to $27,86 \pm 2,02$ in patients of the first group and $24,88 \pm 1,94$ - in the main group, but these indices do not reach the performance of healthy people.

Conclusion. Using the methods of treatment of posttraumatic osteomyelitis of the lower extremities with prolonged use of regional endarterial infusion along with the use of high-intensity laser radiation makes it easier to remove the focus of purulent-necrotic process, speed up the dynamics of wound healing and bone regeneration, normalize values of endotoxemia, increase the defense, of the body significantly

reduce the duration of treatment, accelerate the rehabilitation and restoration of the ability of employers of vast majority of patients .

Key words: osteomyelitis, laser, deficiency of iodine.

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**ON RATIONAL SURGICAL TACTICS IN PATIENTS WITH ACUTE
CHOLECYSTITIS AT THE BACKGROUND OF HYPERBILIRUBINEMIA
BASED ON 20-YEARS' EXPERIENCE IN LAPAROSCOPIC SURGERY**

Introduction. Currently, there is plenty of material amassed globally which is devoted to surgical treatment of acute cholecystitis (ACh) proceeding at the background of hyperbilirubinemia with the aid of mini-invasive techniques. The issue remains to discuss yet. This resulted in appearance of three approaches to formation of the surgery tactics at such pathology: 1) ductal hypertension correction at the first stage with laparoscopic cholecystectomy (LCHE) at the second one (the most popular approach pretending to be a “gold standard”); 2) LCHE at the first stage with draining the common biliary duct and the final ductal hypertension correction at the second one, and 3) pursuit of the simultaneous correction of all pathology present.
Aim – to detect the most rational approach of the three available.

Material and methods. During the 20-years' period (1993-2013) the authors have gained experience in operative treatment of 3009 patients suffered from the acute cholecystitis (ACh) who underwent 2,885 laparoscopic cholecystectomies (LCHE). 1,278 patients (42.5% of total number) had ACh at the background of hyperbilirubinemia, at whom the comparative study of the treatment results obtained by 3 above-mentioned tactical approaches has been performed.

Results. Liquidation of ductal hypertension at the first stage with further LCHE has been performed in 2.6% - 34 patients (as a first stage, 10 patients underwent micro-cholecystectomy, 24 patients had endoscopic papillo-sphincterectomy with further dissection (7), or nasobiliary draining (3). Post-operative lethality rate has made 5.8% (2 patients), amount of post-operative complications being 32.3%.

LCHE with common biliary duct draining at the first stage with the final correction of bile outflow at the second stage has been performed in 1,196 patients (93.7%). No lethality has been found. Amount of post-operative complications has made 1.2%.

Single-stage correction of ductal hypertension and LCHE, including in a number of patients after laparoscopy and forced conversion, has been performed for 48 patients (3.7%). Post-operative lethality rate has made 6.2%, amount of complications – 20.8%. Thus, the issue with destructive changes in gallbladder is the first and more significant as compared with hyperbilirubinemia at complicated ACh development, requiring immediate elimination of the inflammation focus and ductal hypertension reduction at first. The final correction of bile outflow is to be performed at the next stage of treatment.

Conclusion. Authors believe more reasonable for patients with complicated ACh development to perform LCHE with intra-operational cholangiography and common biliary duct draining at first stage, and then, if necessary, to perform other mini-invasive interventions

Key words: laparoscopic surgery, acute cholecystitis, hyperbilirubinemia, stage-wise treatment.

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THE GO NEAR TREATMENT OF THE ACUTE DESTRUCTIVED INFECTED PANCREATITIS

Introduction. Throughout last years frequency of disease of a acute pancreatitis steadily increases - 4,5-6,7 on 10 thousand population. The infecting of the loci of necrotic destruction descends at 25-80 % of patients to a acute destructive pancreatitis. Opened laparotomic and lumbotomic operative interventions are choice operations at an inefficiency smallinvasive technologies.

Starting with above told, a research objective was working out of tactical approaches to treatment on the basis of studying of results of treatment of patients with the acute destructive infected pancreatitis.

Materials and methods. Results of treatment 143 sick of the acute destructive infected pancreatitis are treated. Degree of the express pathological process and weight of a state of the patient it was defined by criteria of the International Association pancreatologists (Atlanta, 1992), behind scale APACH I-II and prognostical scale J. Ranson. Infecting of areas of necrosis took a place on 13-15 day of disease. A testimony to operative treatment were uneffectiveness of conservative therapy, signs of peritonitis, polyorgans insufficiency, festerings phlegmona in paracolic, parapancreatic, extraperitoneal cellulose. It are diagnosed right-side paracolitis at 33(23,1%) patients, left-side paracolitis - at 86(60,1%), parapancreatic phlegmon - at 7(4,9%), signs of poured out peritonitis - at 8(5,6%), accumulation of pus in the cavity of omentulum - at 9(6,3%).

Results. Punction interventions under ultrasonic investigation control with draining of the destruction loci are executed at 107 (74,8 %) patients. From them at 32 (29,9 %) patients of other surgical interventions concerning the acute destructive infected pancreatitis were not applied, the postoperative mortality was not. Reduction of the dimensions inflammatory infiltration and purulent contents which were supervised by the ultrasonic investigation data in dynamics and throughdrainage fystulographys under indications was criteria of efficacy of treatment. Open operative interventions conducted at 127 (88,8 %) cases.

The postoperative mortality in the yielded group has compounded 37,8 %. In frame of a mortality the man compounded 72,9 %, women - 27,1 %. Principal causes of the mortality were polyorganic insufficiency, as result of the acute infected necrotic pancreatitis, against a poured peritonitis, destruction of the large vas with a massive bleeding.

Conclusions. Thus, in clinic it is formed and is successfully applied the stage-by-stage approach in treatment of the destructive pancreatitis on the basis of tactical approaches to treatment according to the clinical report of granting of medical aid at the yielded pathology. Carrying out punction-drainage and laparotomic interventions at acute infected pancreanecrosis with the subsequent offered drainaging a belly lumen and formation median omentobursostoma testifies about enough high performance of such operations.

Key words: treatment, acute destructived infected pancreatitis.

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MICROAUTODERMOPLASTY IN RECONSTRUCTIVE SURGERY IN CASE OF DEEP EXTENSIVE BURNS

Introduction. In pathogenesis of the burn disease severity the area and depth of the tissue affection play the leading role. Deep burn necrosis, its area as a substrate of endogenous and bacterial intoxication, nonspecific toxins form the clinical course of the burn disease, its severity and consequences. Early surgical removal of devitalized tissues in case of burns reduces the endogenous and bacterial intoxication, general inflammatory organism response, improves microcirculation contributing to

preservation of the vital activity of paranecrotic tissues, renews oxygen transport indices, metabolism, rheological and coagulative blood properties.

Early surgical treatment of dermal superficial burns with lyophilized xenodermotransplants successfully decides the problem of wound healing within the shortest time possible irregardless of the affected area. The only pathogenetic method leading to recovery of patients with deep extensive burns is renewal of the skin cover by autodermotransplantation.

One of the most prospective methods for healing deep extensive burns is the technology of skin renewal with microautodermotransplants.

Materials and methods. During 2009-2014 9 microautodermoplasty operations were performed on 5 patients with the deep burn area of 30-50% of the body surface. Preliminary results prove high efficiency and prospects of further improvement of the technology developed by us for skin renewal on the areas of deep extensive burns by microautodermoplasty (Invention Patent of Ukraine No.97741).

Results. By the example of treatment of a patient with overcritical burns the possibility of skin renewal by transplantation of microautodermotransplants on the granulating wounds has been shown.

The patient B. of 2 years and 9 months, medical card No.7746 was hospitalized to the Burns Department of Vinnytsia Regional Pirogov Memorial Clinical Hospital on 23.04.2010 at 12.15 a.m. with burns of the head, body, upper and lower extremities. According to the anamnesis he was a twin boy. On 22.04.2010 at about 4.00 p.m. he was left unattended in the yard and started burning in a baby carriage. The first aid was provided at Tulchyn Central District Hospital and 8 hours later the boy was taken to the Burns Department by ambulance, on a drip, accompanied by an anesthetist and a nurse anesthetist. By examination of the patient the burn disease, fourth-degree burn shock, third-fourth-degree flame burn of 50% of the body surface, first-degree inhalation burn were diagnosed. The affection severity index was 185 units.

Against the background of the adequate infusion and transfusion therapy the patient was operated on from 1.00 till 2.30 p.m. on 23.04.2010. Necrectomy and xenodermoplasty were carried out. On the posterolateral body surfaces the

suprafascial necrectomy was performed. The postoperative wounds were treated under the moisture chamber conditions using low-intensity current without external sources. During the postoperative period the patient's state remained extremely critical but stable.

A repeated operation – wound plasty with mesh xenodermoimplants 1:4 of the inferior part of the posterolateral body surfaces, microautodermoplasty – was performed on 29.04.2010 from 10.30 a.m. till 12.30 p.m. On 30.04.2010 from 10.30 a.m. till 12.50 p.m. wound plasty with mesh xenodermoimplants 1:4 of the superior part of the posterolateral body surfaces, microautodermoplasty was performed. On 03.05.2010 the wounds on problem areas were closed repeatedly with xenoskin.

For the first time deep granulating wounds were closed with free split autodermotransplants on 06.05.2010 from 10.30 till 11.00 a.m. On 12.05.2010 microautodermotransplants were repeatedly transplanted on the residual granulating wounds of the posterolateral body surfaces. Final autoplasty was performed on 18.05.2010. On the 28th day the wounds almost healed up, the patient was allowed to sit. On the 30th day he was allowed to walk.

Conclusions. While meeting the requirements of the proposed treatment technology the engraftment of microautodermotransplants makes up 85-90% of the transplanted ones with further marginal epithelization and quick wound healing.

Thus, for the abortive development of the burn disease and prevention of the histiogenetic and microbial toxemia in the patients with overcritical burns it deems appropriate to perform surgical necrectomy at the burn shock stage and single-stage closure of the postoperative wounds with lyophilized xenodermoimplants. On the areas of the fourth-degree burns it deems appropriate to perform suprafascial necrectomy and further wound closure with microautodermotransplants. Surgical interventions should be performed against the background of the infusion and transfusion therapy.

Further studying of the clinical course of the wound process after transplantation of microautodermotransplants on the granulating wounds is promising.

Key words: burns, burn disease, transplantation, xenodermoplasts, autodermoplasts, microautodermoplasts.

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**PREVENTIVE CARE OF SUPPURATIVE-SEPTIC COMPLICATIONS AT A
LOW RESECTION OF THE RECTUM WITH FORMATION OF A
PRIMARY ANASTOMOSIS**

Introduction. At radical operations on the rectum completed with formation of a primary anastomosis, 14-35 % of the patients observe post-operation complications of various kinds an essential part of which comprise complications of a pyoinflammatory character among which the most threatening is a suture line disruption of anastomosis. Notwithstanding application of the most up-to-date programmes of the complex preventive care of suppurative-septic complications, a significant perfection of the surgical equipment, utilization of new sutural materials and antiseptic agents, introduction of line and circular staple guns, as well as methods of decompression of the rectum, the frequency of dehiscence of the colonic anastomosis occurs in 5-10 % of the patients, but in a lower ampulla cancer it reaches 16-20 %.

In the course of the last decades indications to low resections of the rectum have been significantly expanded, thanks to introduction of the methods of a total mesorectal excision, as well as an oncologically reasonable reconsideration of the level of the rectum resection in reference to the lower edge of the neoplasm after what a well-known principle (axiom) of “six centimeters” became today a consign to history.

On the basis of the main causes evaluation of suppurative-septic complications development in the patients subjected to operation in regard to cancer of the rectum, there was elaborated a programme of their complex preventive care.

Materials and methods. Investigation of the clinical efficacy of the elaborated programme of preventive care of the suppurative-septic complications was conducted by means of evaluation of immediate results of the surgical treatment of 976 patients with cancer of the rectum out of which 773 were operated radically. A sphincter preserving resection of the rectum with a primary anastomosis is accomplished to 620 (80 %) patients out of which to 274 patients there was carried out a low resection, among them in 102 patients – with a nadal anastomosis. For a comparative assessment of the treatment results of the radically operated patients, as well as effectiveness of introduction of the preventive care programme of suppurative-septic complications at radical sphincter preserving operations on the rectum, the analyzed patients are divided into 2 groups. The first of them was comprised of 368 patients subjected to operation from 2005 to 2010 years when the specified programme was introduced on a step-by-step basis and fragmentarily. The second group was comprised of 405 patients subjected to operation over a period from 2011 to 2013 years when the elaborated programme of preventive care of the suppurative complications was practised over the long haul.

Results. The comparative evaluation of the treatment results of patients of the first and the second groups showed that over the analyzed period among all radical operations the number of the rectum extirpations was decreased from 24 up to 13 %, according to what the number of the rectum resections with formation of a primary anastomosis raised from 74 up to 86 %. The most threatening among all post-operation complications appeared to be a dehiscence of anastomosis having occurred in 28 (4,5 %) operated patients, among them in 16 (5,8 %) patients of the first and in 12 (3,4 %) patients of the second group of the observations. In 12 patients this complication challenged performing of a repeated operation: to 7 patients there was formed a transverse colostoma switching off the passage and to 5 patients – a detachment of the anastomosis with leading out of the adducting bowel in the form of

a plane anus. To the rest 16 patients (in 7 of them – with a preventively laid over colostomy) a local treatment was successfully conducted.

There was also established that introduction of the programme of a complex preventive care of suppurative-septic complications at radical sphincter preserving operations on the rectum contributed to lowering of the ‘gereral’ level of post-operation complications from 22,5 % up to 13,5 %. The level of pyoinflammatory complications on the terms of observation decreased from 15,7 % up to 10,1 %, herewith, after conducting of the high anterior resections – from 6,6 % up to 4,6 %, and after the low transperitoneal and abdominoanal resections – from 25,1 % up to 13,5 %. The exponent of post-operation mortality decreased from 2,5 % up to 1,4 %.

Conclusions. At a lower ampulla cancer of the rectum a precise topical diagnostics of the neoplasm’s dissemination with determination of the distance from its lower edge to the internal sphincter allowed performing sphincter preserving operations completed with a primary anastomosis to 80 % of the patients. Conduction of an abdomino-anal resection with formation of a nadal anastomosis on the method offered by us is possible, if after removal of the preparation the length of the rectum stump outstaying over the pelvic support makes not less than 2 cm. The elaborated programme of the preventive care of suppurative-septic complications at resection of the rectum with formation of anastomosis at a progressing growth of the conducted low resections provided a significant improvement of the treatment results in terms of a considerable (from 22,5 % up to 13,5 %) reduction in number of post-operation complications and of the mortality level (from 2,5 % up to 1,4 %).

Key words: purulent-septic complications, rectum, low resection, primary anastomosis.

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TO QUESTION OF PANCREATIC PSEUDOCYSTS TREATMENT

Introduction. This paper presents the results of surgical treatment of 41 patients with cysts of pancreas who underwent external and internal drainage of the cyst using miniinvasive surgery. **Keywords:** pancreatic necrosis, pseudocyst of pancreas, surgical treatment. The problem of the treatment of acute pancreatitis and its complications in the spotlight of researchers and practicing surgeons caused by the increasing frequency of the disease, poor treatment outcomes and high total and postoperative mortality of patients. There is a clear trend towards increasing the number of cysts of the pancreas (bullpen), that occur in 7-8 % of patients with acute pancreatitis, while its destructive forms in 11-18 %. However, there is an increase in injuries of the pancreas, resulting cysts of traumatic origin. **Objective:** comparative analysis of different methods of pancreatic pseudocyst treatment determining the optimal tactics.

Materials and methods. Results of treatment of 41 patients with cysts of pancreas. Among them, 35 (85.4 %) were male and 6 (14.6%) female aged 26 to 68 years, the correlation between them was 6:1. In 29 (70.7 %) patients the cyst of pancreas appeared after suffering from pancreatic necrosis over 3-28 months (15 +3.6), in 8 (19.5 %) patients the cause of injury was pancreatic trauma in the past, in 4 (9.8%) - chronic pancreatitis. Localization of cysts was as follows: head - 2 (4.9 %), body - 28 (68.3 %), tail – 11 (26.8 %). The mature cysts were in 31 (75.6 %) and immature in 10 (24.4%) patients. For the diagnostics clinical, laboratory, X-ray photography, ultrasound, CT, EFGDS analyses have been used. In the postoperative period the performance of SIRS systems, homeostasis, endogenous toxemia syndrome and immune status were compared.

Results. Indications for external drainage with or without marsupialization were - immature cysts of pancreas, festering, perforation into the abdominal cavity, bleeding into the cavity of the cyst. External drainage was performed to 12 (29.2 %) patients, 2 of which formed the external pancreatic fistula. In 1 patient it was closed

independently, and for the second later the surgery was performed. The normalization of clinical and laboratory indices of hemostasis in these patients took place slowly and during the first 10-14 days was not observed.

The internal drainage of the cyst of pancreas was performed no sooner than 6 months after their formation. It was performed in 22 (53.6%) cases. 4 patients with pseudocysts of the head the anastomosis between the cyst and the duodenum was performed, in the other 18 cases - cystenteroanastomosis was created by Roux (15-83,3 %) or "cap" by Shalikov and anastomosis by Braun (3-16,7 %). The normalization of clinical and laboratory indices of hemostasis in these patients passed quickly and a positive trend was observed with 7-10 day post-operative period.

7 (17.2%) patients during laparoscopic ultrasound monitoring underwent drainage of cysts using Foley catheter. In 5 (71.4 %) of these cyst were complicated with festering. After miniinvasive intervention the improvement of condition of patients and normalization of clinical and laboratory parameters of hemostasis were observed on 4 - 6 day of postoperative period. In the postoperative period 2 (4.87 %) patients died, after miniinvasive surgery the lethal cases were not observed.

Conclusions. Complicated and immature cysts of pancreas are evidence for external drainage. Internal drainage of the mature cysts of pancreas are performed using the technique primarily by Roux. The application of miniinvasive method provides a rapid improvement of patients and normalization of clinical and laboratory parameters of homeostasis.

Key words: pancreatic necrosis, pseudocyst of pancreas, surgical treatment.

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MICRONUTRIENT AND METABOLIC DETERMINANTS OF HYPERHOMOCYSTEINEMIA IN PATIENTS WITH CHRONIC LIVER DISEASE

Introduction. Hyperhomocysteinemia (HHC) is recognized as an independent risk factor for atherothrombotic and neurodegenerative diseases, osteoporosis, renal disease, and carcinogenesis teratogenesis. Purpose of the study was: to study the prevalence HHC in patients with chronic hepatitis and cirrhosis of the liver and determine its relationship to severity and etiology of disease, supply of vitamins B6, B9, B12 and renal function.

Materials and methods. The study involved 245 patients with chronic hepatitis (CH, age $38,9 \pm 0,86$ years) and 113 patients with liver cirrhosis (LC, age $50,9 \pm 1,01$ years). In 89 patients with chronic hepatitis was diagnosed with chronic hepatitis C, 40 - HG B, 23 - HG B + C in 38 patients - nonalcoholic steatohepatitis, 30 - CG viral alcohol and 25 - alcoholic etiology. In 48 patients with LC was detected viral etiology of the disease in 23 - viral-Alcoholic, 42 - Alcoholic etiology. The control group comprised 118 healthy individuals (age $39,5 \pm 1,16$ years).

Results. Hyperhomocysteinemia (HHC, $>15 \mu\text{mol/L}$) was observed in 7.6% of healthy individuals (n=118), 29% of patients with chronic hepatitis (n=245) and in 77% of patients with cirrhosis (n=113). Serum level of homocysteine (Hcy) in patients was independent on gender, correlated weakly with age ($r=0,22-0,25$, $p<0,05$) and was significantly higher in patients with alcoholic liver disease. The main micronutrient determinant of Hcy level in patients with chronic hepatitis and cirrhosis was serum folate level ($r=-0,44$, $-0,39$, $p<0,05$). Folate deficiency was observed in 8 and 61% of patients with chronic hepatitis and cirrhosis, respectively. Serum Hcy level in patients with chronic hepatitis correlated with the fibrosis stage, steatosis degree and necroinflammatory activity ($r = 0,63$, $0,38$, $0,19$, $p<0,05$). Serum Hcy level in patients with cirrhosis correlated with serum albumin level ($r=-0,30$, $p<0,05$). The most marked HHC was recorded in patients with hepatorenal syndrome. Serum

Hcy level in patients with decompensated cirrhosis correlated with serum creatinine and glomerular filtration rate ($r=0,55$, $-0,40$, $p<0,05$).

Conclusion. A promising direction for further research is to ascertain the effectiveness and feasibility of folic acid as a means hypohomocystinemic in patients with chronic hepatitis and cirrhosis.

Key words: chronic hepatitis, cirrhosis, homocysteine, folic acid, glomerular filtration.

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**REASONING OF EMPIRICAL ANTIBIOTIC THERAPY OF PURULENT
INFLAMMATORY DISEASES OF SOFT TISSUES BASED ON
MICROBIOLOGICAL PASSPORT OF DEPARTMENT**

Introduction. The purpose of antibiotic therapy of purulent inflammatory diseases of soft tissues remains unclear. Monitoring of sensitivity range of the most widely spread causing factors of purulent inflammatory diseases of soft tissues might be considered efficient and promising.

Materials and methods. 448 crops of clinical material have been analyzed retrospectively and 418 among those have been the patients with purulent inflammatory diseases of soft tissues who have been treated in surgery department of Communal city clinical emergency hospital in Lviv in 2013. Microbiological passport was created with the help of standardized program software (Microbiological laboratory data base) (Whonet 5).

Results. In 377 (84%) primary and secondary crops aerobic microflora was discovered. In 71 (16%) cases the growth was not present. In primary crops of

clinical material (n=367) the wide range of microorganisms was identified (12 species): 7 species of Gram-negative (64 %) and 5 species of Gram-positive (36%) and fungus *Candida albicans*. In agents' structure the most widely spread pathogen appeared to be *S. aureus* (50%); *E. coli* (1 %); *S. haemolyticus* (9%). Generalized data of sensitivity to antibacterial medication with the help of disco-diffusion method stated that strains *S.aureus* were sensitive to oxacillin, gentamicin, imipenem, vancomycin in 100% cases; less (84%) – to ciprofloxacin. Sensitivity of other etiologically significant pathogens was: *E.coli* (100%) – to amikacin, gentamicin, imipenem, ceftazidime (97%); *S.haemolyticus* (100%) – to gentamicin, vancomycin, imipenem; ciprofloxacinum (85%). Based on the results of this research the existence of resistant (stable and moderately stable) strains of dominant pathogens: *S.aureus* to erythromycin (52%), *E.coli* – to ampicillin (80%), ciprofloxacinum (34%), *S.haemolyticus* – to oxacillin, doxycycline (34%) can be stated.

Conclusion. Summarizing of bacteriological research results, with the help of standardized computer programs, allows us to create the microbiological passport of surgery department. Passport's data include the peculiarities of microbiological scenery of purulent inflammatory diseases of soft tissues and they can be defined as the objective reasons to the regional recommendations of empirical antibiotic therapy.

Key words: purulent inflammatory diseases of soft tissues, microbiological passport, empirical antibiotic therapy.

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**PREVENTION OF INFILTRATIVE-INFLAMMATORY COMPLICATIONS
OF POSTOPERATIVE WOUNDS IN THE PATIENTS WITH NON-
COMPLICATED TYPES OF ANTERIOR ABDOMINAL WALL HERNIAS**

Introduction. At present the frequency of pyoinflammatory complications in postoperative wounds does not reduce despite the use of new strong antibiotics, antiseptics, nano-technologies and it ranges from 7,2 % up to 17 %. There are no information about the state of the vegetative nervous system (VNS), features of its dynamics before and after the operation in the world literature. And particularly in the patients with anterior abdominal wall hernias of various localizations. There are no methods of influence on harmonization of para- and sympathicotonia either. That's why the *objective* of our work was to study the VNS influence on the features of the postoperative period and possibilities of development of infiltrative-inflammatory complications in the patients with anterior abdominal wall hernias.

Materials and methods. In 260 patients divided into four groups: patients operated by traditional methods – 64, traditional methods with alloplasty – 68, correction of the VNS state by the vibration-acoustic therapy with the device "Vitaphone" without alloplasty – 64, correction of the VNS state with the vibration-acoustic therapy and alloplasty – 64 the "K" ratio was determined as the indicator of stability of the para- and sympathetic divisions of the VNS. The examination was carried out on the 1st, 3rd, 5th and 7th day after the operation before and after the correction.

Results. The examination results showed that on the first day after the correction the average value of "K" was statistically significantly higher than before the correction and it was in the stability area; during the next days an increase of the "K" ratio could be observed and from the fifth day its average values corresponded to those of the stability area before the correction already and indicators in the patients of the control group without correction prevailed. "K" was in the parasympathicotonia area during the whole treatment period in these patients. No statistical significance was observed between the values depending on the hernia localization.

The comparative analysis of complications depending on the treatment methods and structure proved that after traditional methods without the vibration-acoustic therapy infiltrative-inflammatory complications in postoperative wounds of various localizations were observed in 6,25-7,35 %% of the patients. In the group of patients

who underwent the vibration-acoustic therapy locally on the wound after the operation infiltrative-inflammatory complications could be observed only in 1,56 % of the patients that was 4-4,7 times ($p < 0,001$) less in comparison with the traditional treatment methods respectively.

Conclusion. Thus, the vibration-acoustic therapy with the device "Vitaphone" stabilizes the VNS state after the operation in the patients operated for hernias of various localizations and so considerably reduces the number of infiltrative-inflammatory complications in postoperative wounds. There are wide prospects of studying the VNS correction in the operated patients with various pathologies.

Key words: wound, complication, vibration-acoustic therapy, vegetative nervous system.

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ACUTE NECROTIZING PANCREATITIS: UNFAVORABLE OUTCOME RISK FACTORS

Introduction. Necrotizing pancreatitis remains one of the most difficult diseases in diagnostic and treatment. The results of treatment of necrotizing pancreatitis last years became better, but mortality from its destructive forms still very high on level 30-70%. Optimization of treatment tactics connected with objective estimation of patient's state. The purpose of research was : to conduct the analysis of surgical treatment of patients with acute necrotizing pancreatitis and to identify criteria, which reflect the result of treatment.

Materials and methods. There is an analysis of surgical treatment of 125 patients with severe forms of an acute pancreatitis. The indication to operation were: clinic of

a peritonitis at 117 (93,6%) patients, increase of a mechanical jaundice at 4 (3,2 %) patients, a bleeding from areas of necrosis at 4 (3,2 %) patients. 80 patients had an infected pancreatic necrosis. 80 patients had an injury of retroperitoneal fat. 34 patients died Estimation of patient's state by SAPS II, SAPS III, Savel`ev scale and Acute Sepsis Severity Evaluation Scale was carried out.

Results. In preoperative period severity of state of patients with infected pancreatic necrosis estimate by SAPS II ($18,98 \pm 1,03$), SAPS III ($51,20 \pm 0,89$), and Acute Sepsis Severity Evaluation Scale ($15,16 \pm 0,78$). Severity of state of patients with sterile pancreatic necrosis by SAPS II was ($16,38 \pm 1,07$ ($p > 0,05$)), SAPS III - ($45,63 \pm 1,10$ ($p < 0,05$)), Acute Sepsis Severity Evaluation Scale - ($10,36 \pm 1,03$ ($p < 0,05$))

In dynamic of postoperative period severity of patients with infected pancreatic necrosis by ASSES was from $15,89 \pm 0,74$ on 1-2 day to $10,73 \pm 1,69$ on 8-10 day. , severity of patients with sterile pancreatic necrosis was from $12,03 \pm 0,48$ to $7,64 \pm 0,92$ consequently ($p < 0,05$). Severity of patients with sterile pancreatic necrosis and parapancreatitis was $12,04 \pm 0,62$ on 1-2 day to $9,2 \pm 1,6$ on 8-10 day. Severity of patients with sterile pancreatic necrosis without parapancreatitis was from $11,87 \pm 0,81$ to $6,78 \pm 0,72$ consequently ($p < 0,05$). Severity of patients with infected pancreatic necrosis and parapancreatitis was $16,02 \pm 0,78$ on 1-2 day to $10,86 \pm 1,01$ on 8-10 day. Severity of patients with infected pancreatic necrosis without parapancreatitis was from $15,33 \pm 0,57$ to $10,2 \pm 1,32$ consequently ($p < 0,05$).

Severity of patients with infected pancreatic necrosis by SAPS II was ($21,56 \pm 1,32$); severity of patients with sterile pancreatic necrosis was ($18,71 \pm 0,71$) ($p < 0,05$). Then after 3^d day were no differences.

Severity of patients with infected pancreatic necrosis by SAPS III was $50,93 \pm 1,89$. Severity of patients with sterile pancreatic necrosis was $48,08 \pm 1,35$. But in dynamics of postoperative period were no differences in groups.

Severity of patients with infected pancreatic necrosis by Savel`ev scale was $15,79 \pm 0,79$, Severity of patients with sterile pancreatic necrosis was $11,96 \pm 0,59$ ($p < 0,05$). Then after 3^d day were no differences in groups.

In preoperative period severity of deceased patients by Acute Sepsis Severity Evaluation Scale was $11,74 \pm 0,77$, Severity of survivor patients was $15,05 \pm 1,04$ ($p < 0,05$). In dynamics of postoperative period severity patients decreased to $12,83 \pm 1,7$ and $8,71 \pm 0,82$ consequently ($p < 0,05$).

In preoperative period severity of deceased patients by SAPS II was $21,78 \pm 1,65$. Severity of survivor patients was $15,86 \pm 0,79$ ($p < 0,05$). In dynamics of postoperative period were no differences in groups.

In preoperative period severity of deceased patients by SAPS III was $53,52 \pm 1,3$. Severity of survivor patients was $46,97 \pm 0,83$ ($p < 0,05$). In dynamics of postoperative period were no differences in groups.

In preoperative period severity of deceased patients by Savel`ev scale was $16,79 \pm 0,80$. Severity of survivor patients was $13,20 \pm 0,48$ ($p < 0,05$). Then after 3^d day were no differences in groups.

Has been developed a mathematical model of prognosis of the disease:

$$P = \frac{1}{1 + e^{-(0,37 \times ASSES - 6,24)}} \times 100\%$$

Conclusion. The depth of pathophysiological changes in patients with severe acute pancreatitis depends on the nature of the injury of the pancreas and the presence of a injury of retroperitoneal fat. The homeostasis is most expressed in patients with pancreonecrosis with injury of retroperitoneal fat. The most effective results of the assessment of patients with severe acute pancreatitis can be achieved through the application of the Acute Sepsis Severity Evaluation Scale as such, which objectively reflects the severity of the patient as in the preoperative and postoperative dynamics periods. We have developed a mathematical model for predicting the course of acute necrotizing pancreatitis is characterized by high accuracy, and therefore can be recommended for application in surgery in order to identify at an early postoperative period, patients who need more intensive care.

Key words: acute pancreatitis, retroperitoneal fat, postoperative lethality, estimation of severity of patient, Acute Sepsis Severity Evaluation Scale.

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**CHANGES IN PARAMETERS OF THE CARDIO-VASCULAR SYSTEM IN
PATIENTS WITH PERITONITIS, DEPENDING ON ITS PREVALENCE ON
ADMISSION**

Introduction. Results of treatment of peritonitis depends on many factors that occur in this disease. Against the backdrop of acute peritonitis occurring pathological changes in all organs and tissues of the human body. The result of the disorder of blood circulation and microcirculation during peritonitis is a profound change of liver function , kidney occurrence of pulmonary complications , including the development of respiratory and cardiovascular disease. Control of changes on the part of the cardiovascular system (CVS) requires the use of affordable, simple and informative tests. *The aim* of the study was to examine the characteristic changes in the cardiovascular system of patients on admission to hospital, depending on the incidence of peritonitis.

Materials and methods. It was the study of hemodynamic changes during peritonitis in patients on admission to hospital, using calculation methods. To assess the state of the cardiovascular system in patients with peritonitis was used a number of hemodynamic characterizing changes in the cardiovascular system during peritonitis. We determined heart rate (HR), systolic arterial (ATS) and diastolic (ADT) pressure, pulse pressure (ATP), mean arterial pressure (ATser) middle dynamic pressure (MDT), stroke volume of blood (AA), minute volume capacity blood (Hawk),

Robinson index (DI), the coefficient of efficiency of blood circulation (KEK), left ventricular work capacity (W fields. grinding). The influence of the sympathetic and parasympathetic nervous system in the regulation of blood circulation was assessed by vegetative Kerdem index (IR). Heart rate (HR) was determined by pulsometry at the radial artery. PBX and ADT was determined by M.S.Korotkovu.

Indicators ATP ATsr, SDT, AA, Hawk, IR, Kyoko, W liv.shl., IR were received by calculation method. Using of the estimated parameters of CVS mares easier and shortens the functional tests, which are important during surgical medical and biological control. We using computational methods for determining the functional capacity of organs and systems, but there is the fact that not everywhere exit expensive equipment. The use of functional diagnostics makes it possible to study the initial and the current levels of the functional state of the organism, its spare capacity, adjustment of individual organs and systems of the organism as a whole to a particular load. Calculation method does not require conducting invasive research, preventing further injury to the patient and infectious complications.

It examined 86 patients with peritonitis and compared their performance with CVS group of healthy people – 46 people who were clinical examination in the clinic. To minimize the impact of age-related changes in the results of this study, we included only individuals, whose age reached 35 years of age. The average age of patients in the healthy subjects was $27,61 \pm 5,35$ years. In patients with local peritonitis average age was $24,05 \pm 4,66$, with diffuse was $24,50 \pm 4,75$ and $24,28 \pm 3,67$ with pour.

When comparing the performance of CAS in patients with peritonitis compared with healthy patients noted the increase in pulse rate of $69,56 \pm 8,23$ beats/min to $85,07 \pm 4,81$ beats /min at the local, $100,83 \pm 2,19$ beats/min in diffuse to $114,28 \pm 8,83$ beats/min ($p < 0,001$) in patients with diffuse peritonitis. Was observed decrease in systolic blood from $113,80 \pm 7,57$ to $109 \pm 0,80$ mercury at the local, $108,33 \pm 3,78$ mercury diffuse to $102,85 \pm 12,64$ mercury with diffuse peritonitis ($P < 0,001$). Reduction of diastolic pressure is more intense pace of $77,50 \pm 7,68$ to $64,86 \pm 0,08$ mm Hg at the local, $64,16 \pm 1,86$ mm Hg in diffuse until $61,78 \pm 9,18$ mm Hg ($p < 0,001$) with diffuse peritonitis. Average pressure decreased from $95,65 \pm 7,45$ to

87,36 ± 0,56 mm Hg at the local, 86,25 ± 1,91 mm Hg in diffuse to 82,32 ± 10,75 mm Hg (P < 0,001) with diffuse peritonitis.

Descriptions of SDT decreased with the increase of the prevalence of peritonitis from 89,48 ± 7,19 to 79,71 ± 0,59 mm Hg at the local, 78,74 ± 1,57 mm Hg in diffuse and 75,33 ± 10,17 mm Hg (p < 0,001) with diffuse peritonitis. These changes indicate a reduction in blood flow reserve energy, reduce resistance of precapillaries, the violation of consistency of regulation of cardiac output and peripheral resistance.

It was increasing of pulse pressure in patients with local peritonitis at 23,96 % as compared to healthy patients due to a significant drop in diastolic blood pressure of - 16,31 % over the systolic - 3,47 %. Further it was observed the reduction of increase in pulse pressure in patients with diffuse peritonitis, the difference for higher pulse pressure was 13,14% compared with the group of healthy patients. The ADT value is determined by the degree of patency of capillaries and resistance of precapillaries. Therefore, these changes in terms of pulse pressure can be explained by a significant drop in resistance of precapillaries even when the initial inflammation of the peritoneum. In a further drop was observed ADT through more active reduction in systolic pressure over diastolic in patients with diffuse and diffuse peritonitis.

In patients with peritonitis was marked the increase in KEK, which increases with increasing incidence of peritonitis. In the group of patients who underwent clinical examination KEK value was equal to 2521,73 ± 456,28 USD, corresponding to normal. At local peritonitis noted a sharp increase - 3828,82 ± 242,90 USD, or 57,83%. In diffuse 4447,50 ± 414,77 USD - 76,36 % and 4687,86 ± 632,27 USD - 85,89 % (p<0,001) with diffuse peritonitis. That is, even a minor source of peritonitis leads to an increase in the coefficient of efficiency of circulation, indicating a significant drop in the potential of hemocircular system and its mitigation. In peritonitis, regardless of distribution, a decrease of AA 78,39 ± 11,44 to 64,79 ± 7,69 ml at local, 63,30 ± 4,88 ml in diffuse and 63,11 ± 4,94 ml (P < 0,001) with diffuse peritonitis, which in turn leads to a decrease in tissue perfusion. Index minute volume of circulation in healthy patients was 5413,69 ± 789,99 ml. At local peritonitis occurred to increase in 5517,08 ± 800,31 ml, but this increase nonsignificant

($p > 0,32$). In diffuse peritonitis Hawk grew to $6376,06 \pm 429,34$ ml spilled to $7220,97 \pm 886,74$ ml ($p < 0,001$). However, this increase is due to a sharp increase in heart rate, which is a significant burden on the myocardium. Marked increase in IP from $79,16 \pm 11,14$ to $93,47 \pm 5,32$ USD at the local, $109,17 \pm 2,35$ USD diffuse and $117,18 \pm 14,78$ USD diffuse peritonitis. IKerdo increased from $-12,68 \pm 15,33$ to $23,50 \pm 4,60$ at local, $36,32 \pm 2,55$ diffuse and $45,37 \pm 10,15$ with diffuse peritonitis. The increasing IP and IKerdo indicates to reduction of functional reserves of CVS and the prefer of sympatotoniyi and dysregulation of cardiovascular system, increase functional expenses for living organism.

Proof of this is to increase the capacity of the left ventricle to ensure the functioning of the body in peritonitis. Capacity of the left ventricle increased from $0,9078 \pm 0,14$ to $1,0778 \pm 0,0617 - 18,72\%$ at local, $1,2533 \pm 0,0410 - 38,05\%$ diffuse to $1,3262 \pm 0,2036 - 46,08\%$ with diffuse peritonitis.

Conclusions. On admission to hospital in patients with peritonitis, is noticed significant irregularities of CAS parameters that affect the course of the underlying disease and in need of serious correction. Determination of changes in terms of CAS by calculation method on admission to hospital does not require expensive equipment, it can be used in every hospital so that you can adjust the status of CAS, to predict the course of peritonitis and develop an appropriate treatment strategy.

Key words: peritonitis, cardio-vascular system.

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**SUBTOTAL COLONECTOMY AS THE FIRST STAGE OF SURGICAL
TREATMENT OF SEVERE NONSPECIFIC ULCERATIVE COLITIS**

Introduction. Surgeons are split on the question of the extent of surgical intervention in severe ulcerative colitis (UC). The problem of drug therapy of the remain part of the colon does not appear to have been resolved. For this reason we studied the efficiency of intraarterial therapy.

Materials and methods. Results of surgical treatment of 76 patients with severe nonspecific UC, who were undergoing colon resection (subtotal colectomy [SC]) as the first stage of surgical treatment, are discussed. For 36 patients, who were undergoing SC as the first stage of surgical treatment, catheterization of sigmoid artery was performed.

Results. General number of complications which required surgical intervention was 11 ($27,5 \pm 7,1\%$) in the control group (CG) including adhesive intestinal obstruction (AIO) in 5 patients, intestinal perforation in 5 patients and intraabdominal abscess in 1 patient. The tendency to decreasing of early postoperative complication was observed in the study group (SG) to 5 ($13,9 \pm 5,8\%$) cases including adhesive intestinal obstruction (AIO) in 2 patients, intestinal perforation in 2 patients, and intraabdominal abscess in 1 patient ($p > 0,05$). Four patients in the SG died in postoperative period and 8 patients died in the CG; therefore lethality was $11,1 \pm 5,2\%$ in the SG and $20,0 \pm 6,3\%$ the CG. Causes of death included the multiple organ dysfunction syndrome progression in 4 patients, peritonitis in 4 patients, bleeding in 2 patients, and cardiovascular failure in 2 patients. The mean age of death of patients was $44,2 \pm 5,7$ ears. Pathohistology monitoring of intestinal mucosa condition was performed in 7 days, its results have demonstrated the presence of focuses of physiological epithelium regeneration and signs of chronic process.

Conclusion. Length of stay in hospital was shorter in the SG by a mean of $10,4 \pm 2,1$ days. Time to proctectomy and reconstructive surgery was shorter in the SG by a mean of $7,2 \pm 3,2$ months. Unacceptable outcomes were observed in 17 ($42,5 \pm 7,8\%$) patients of the CG and in 7 ($19,4 \pm 6,6\%$) patients of the SG ($p < 0,05$).

Key words: ulcerative colitis, surgical treatment, intraarterial therapy.

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DIAGNOSTIC DIFFICULTIES IN TREATMENT OF NECROTIZING SOFT TISSUE INFECTIONS

Introduction. Necrotizing soft tissue infections (NSTI) – is a group of dangerous surgical diseases that spreads very quickly with the development of severe toxemia and multiple organ dysfunction syndrome. At the beginning of NSTI there is often contradiction between clinical symptoms and the speed of disease development with severe intoxication syndrome. It is the reason of many diagnostic mistakes, late hospitalization to the surgical ward and untimely performed operation. The aim of our work was to explore course peculiarities and clinical masks of the necrotizing soft tissue infections on early stages to improve its diagnostics.

Materials and methods. Retrospectively we have studied disease peculiarities on 15 patients with necrotizing soft tissue infections. The selection criteria were: diagnostic difficulties at the beginning of treatment. We have analyzed clinical symptoms of the early stages, leucocytes formula changes and leucocytes intoxication index (LII) by Calf- Calif.

Results. In most (9; 60%) cases an untimely primary appeal for medical help took place – from 2 to 12 days from the injury or effect of causal factor. At the moment of hospitalization clinical symptoms were common with many other diseases. Doctors of different medical profile (specialties) were involved in diagnostics. The most common diagnostic mistakes were affirmation that NSTI were: erysipelas (26,7%), infected wound (13,3%) or complicated pathology of lower limb veins (13,3%), other diagnosis were: serous bursitis, vesical disease, sciatic nerve inflammation, pancreatitis, postcollaptic condition. In two cases (13,3%) NSTI developed along with acute pathology (pancreatitis, paranefritis). All patients along with minimum

local manifestations (small pain, swelling) first symptoms were fever ($37,5^{\circ}$ – 39° C) and hypotension. At first day after hospitalization most of patients (12; 80%) had small leucocytosis (9 – 13,7 Г/л). Although after calculation of the LII by Calf-Calif we have noticed its large increase – from 3 to 15,3 units (N 0,62–1,6 units), that can be an indirect confirmation of the early severe intoxication syndrome appearance. In 14 (93,3%) patients was multiple organ dysfunction syndrome. The presence of infectious-toxic shock was found in 7 (46,7%). Surgical treatment was performed in 14 cases. One patient was not operated because of the rapid development of fulminant multiple organ dysfunction syndrome. Overall mortality accounted 60 % (9 patients), postoperative mortality – 57,1%.

Conclusion. Peculiarities of the development of early stages necrotizing soft tissue infections with nonspecificity of its symptoms is an often reason of the diagnostic mistakes. Appropriate for early diagnosis would be to increase awareness of non-surgical medical profile. Leukocytic intoxication index by Calf-Calif is an early informative criterion of severity of intoxication syndrome.

Key words: Necrotizing soft tissue infections, Necrotizing Fasciitis, clinical masks, diagnostic pitfalls, leukocytic intoxication index.

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**ANTIBIOTIC THERAPY OF PATIENT WITH COMPLICATED DIABETIC
FOOT SYNDROME**

Introduction. Unfortunately, today in Ukraine, there are no standards for antibiotic therapy (ABT) with different clinical forms of complicated diabetic foot syndrome (DFS), were not considered circumstance of receiving chemotherapy drugs in the prehospital phase, not accented the severity of the patient, as well as complications such as sepsis. *Objective* is to optimize the ABT in patients with complicated DFS.

Materials and methods. Analyzed the results of treatment in 2137 patients with complicated DFS for the period 2005 - 2014, which was performed at the Department of outpatient, purulent-septic surgery SI «ZMAPO of MH of Ukraine» in pyoseptic center with bunks for diabetic foot MI «City Clinical Hospital № 3». Inclusion criteria: diabetes mellitus (DM) type II, the presence of SDS with pyo-necrotic lesions of soft tissues of the foot or aseptic bone lesions of the foot on the background of diabetic osteoarthropathy. Exclusion criteria: type I diabetes; DFS with intact skin (stage 0 classification of Wagner); isolated diabetic neuropathy; patients on hemodialysis.

Results. Distribution carried out as follows: control group - 612 patients in the period 2005 - 2008, 1525 patients - the main group, the period 2009 - 2014. For sex and age index, comorbidity groups were representative. According to the classification of the complicated DFS - «CZE», each identified clinical disease specific to the local pathological process in view of the etiological factor. Symbolic notation system for clinical diagnosis «CZE» had 4 main groups of options: $C_{1-5}Z_1E_{1-3}$, $C_{6-12}Z_2E_{1-3}$, $C_{13-16}Z_3E_{1-3}$, $C_{17-18}Z_4E_{1-3}$. For each group of patients the ABT was assigned based on receiving chemotherapy drugs in the prehospital phase. Found that in patients of group I with superficial pyonecrotic processes of DFS in which surgery is performed in an ambulatory, ABT can be administered in the tablet forms of cephalosporins of I-II generation, protected penicillins, clindamycin. If ABT in the ambulatory phase was ineffective and the patient is directed to the hospital - in a hospital should be given parenteral antibiotics with a broad spectrum of action – cephalosporins of III-IV generation, fluoroquinolones. At the risk of MRSA - Linezolid.

When assigning the ABT for the patients of groups II-III the one should remember that in the presence of sensitivity to multiple antimicrobials, use sequence - from the

weaker to the stronger. Drugs of choice are protected penicillins, cephalosporins of III-IV generation (preferably - protected), fluoroquinolones of generation III, ceftaroline, ertapenem. In the presence of MRSA strains of staphylococci - linezolid. With the development of sepsis remain the drugs of choice carbapenems, ceftaroline, and with the presence of MRSA - linezolid or vancomycin to any regime of ABT. During ABT no later than 10 days from the beginning, it is necessary to assign a prophylactic dose (150 mg 1 time per week) of antifungal drugs - fluconazole (Diflucan, Fusys etc.). Unambiguous criteria to stop the ABT does not exist. Decision should be done on the basis of the dynamics of local and systemic inflammatory response, the degree of contamination of wounds, C-reactive protein, procalcitonin reduction.

Conclusions. Optimization of the regime of ABT combined with active surgical and local treatment will positively affect the phase of wound healing: cleansing wounds occurred faster ($P<0,05$) rate; rate of wound healing was significantly ($P<0,05$) higher; 4.6% reduced the number of postoperative complications ($P<0,05$). Suggested tactics of ABT contributed to the reduction of length of hospitalization, with an average of $(33,8\pm 1,5)$ to $(21,4\pm 2,4)$ patient days ($t=3,32$; $P<0,05$), and the reduction of postoperative mortality from 7,5 to 3,8% ($\chi^2=6,74$; $P<0,05$).

Key words: diabetic foot syndrome, antibiotic therapy.

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**RATIONALE OF REGIONAL ADMINISTRATION OF ANTICOAGULANTS
IN CASE OF PYO-NECROTIC FORM OF DIABETIC FOOT**

Introduction. Diabetes mellitus is one of the most pressing issues of our time. The structure of endocrine disease, this pathology has a leading position. The prevalence is about 4 - 5% in developed countries and tends to sustainable growth. The social and economic importance and urgency of the problem of diabetes is largely conditioned by his surgical component, and in particular - diabetic foot syndrome.

Materials and methods. Summary: in this abstract we want to show the results of 26 patient treatment on pyo-necrotic form of diabetic foot. The diagnosis is confirmed by X-ray contrast angiography computer, angio duplex scanning, peak systolic and diastolic blood flow velocity, osteo manometry.

Patients evaluated the hemostatic system: pro-coagulating link (activated partial thromboplastin time, prothrombin time, fibrinogen, ethanol, protaminsulfat, ahreskryn tests, anticoagulant and fibrinolytic link (antithrombin III, plasmin, plasminogen, plasminogen inhibitors, total fibrinolytic activity, and Hageman dependent fibrinolysis).

Haemostatic system indicators was determined in regionar and peripheral blood flows. To assess the systemic hemostatic blood sampling was performed from cubital vein, regional state of hemostasis was evaluated on parameters determined in the blood veins of the foot of the affected limb. In the control group consisted of 16 donors.

Results. Indicators of soluble forms of fibrinolysis (ethanol and protamine sulfate tests) in all patients (100%) were positive with negative results in the control group, indicating activation of coagulation in the bloodstream.

Indicators ahreskryn test in patients with systemic circulation were $23,1 \pm 0,2$ sec., In regional blood flow $27,0 \pm 0,3$ sec., When controlling $15,5 \pm 0,5$, performance factor XIII in systemic blood flow was 27 ± 3 sec., the regional 21 ± 5 sec., with control 33 ± 2 indicate an activation of coagulation that dominates in regional blood flow.

The activated partial thromboplastin time 31 ± 3 sec., in regional blood flow 28 ± 2 , in the control 36 ± 4 sec. Prothrombin time in the system bloodstream was $24,3 \pm 2,1$ sec. and regional blood flow $18,4 \pm 2,5$ sec., when controlling $17,5 \pm 3,5$ sec. These

results suggest the activation of coagulation in background reduction of anticoagulants.

Indicators of antithrombin III in regional blood flow was significantly reduced and were $76,5 \pm 3$ with no significant difference between the indices of systemic blood flow and control, it means that the increased uptake in response to activation of the coagulation system.

In systemic circulation total fibrinolytic activity significantly decreased $83 \pm 8\%$, in regional $73 \pm 6\%$ at a rate of $100 \pm 18\%$. Marked by violations of the mechanism of activation of plasminogen and as a result of its significant reduction in systemic blood flow detected $67,3 \pm 4\%$ in regional $65,0 \pm 3\%$ when controlling $100 \pm 18\%$.

Conclusion. We found that in regional blood flow, against the background of common hyper coagulation, in regional blood flow it was more pronounced. In the complex surgical treatment of this category of patients requires regional anticoagulation.

Key words: pyo-necrotic form of diabetic foot, haemostatic system.

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CYTOPROTECTIVE EFFECT OF COLLOIDAL BISMUTH DURING H. PYLORI THERAPY OF PATIENTS WITH UNDIFFERENTIATED CONNECTIVE TISSUE DISORDERS

Introduction. Violation of functional activity of cellular elements of connective tissue during undifferentiated connective tissue disorders (UCTD) promotes change of reparative processes and defective collagen formation, can be a significant

pathogenetic mechanism of atrophy of gastric mucosa (GM). *The purpose* of the research is revealing the dynamics of morphological changes of gastric mucosa of patients with GERD (Gastroesophageal reflux disease) and UCTD on the background of cytoprotective therapy.

Materials and methods. During the research there were used clinical-instrumental methods: pH-metry, FEGDS (fibroezofagogastroduodenoscopy), H.pylori were diagnosed by rapid urease test, morphological and serological methods. Biopsies were evaluated according to the Sydney classification, Houston viewing on the modified visual-analog scale (OLGA scale). 74 patients with GERD and UCTD and 58 patients with GERD without UCTD were examined. All the patients were divided into two groups according to H. pylori scheme (control - clarithromycin + amoxicillin + esomeprazole and basic - clarithromycin + amoxicillin + esomeprazole + Bismuth subcitrate).

Results. Atrophic changes and intestinal metaplasia of the GM were found in the patients examined both nosological groups, but there was a significant predominance of atrophy (45,9 % vs. 12.1%) and metaplasia (25,7% vs. 5,2 %) precisely in the group of patients with connective tissue disorders syndrome (CTDS). Significant prevalence of atrophic changes of the patients with CTDS compared with the patients without evidence of CTDS ($p < 0.05$) proves the role of connective tissue disorders in the development and progression of atrophic changes along with Hp persistence.

There was found a substantial dynamics of reduction of signs of atrophy of the gastric antral department on the background of treatment with H. pylori scheme with colloidal bismuth of the patients with CTDS ($p < 0.05$) in comparison with the patients without CTDS. This indicates a positive effect of the preparation of cytoprotective colloidal bismuth in H. pylori scheme of the patients with CTDS, as well as the large percentage of cases of undetermined atrophy among the patients with CTDS requiring differential diagnostics exactly on the background of cytoprotective treatment.

Conclusion. Taking into account the high percentage of atrophic changes in the GM of the patients with CTDS signs it is recommended to evaluate the eradication of

invasive techniques and differentiate true atrophies and undefined atrophies after a course of *H. pylori* therapy with obligatory use of colloidal bismuth subcitrate preparations.

Key words: cytoprotection, atrophy, gastritis, *H. pylori*.

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COMPREHENSIVE CONSERVATIVE MANAGEMENT OF CHRONIC VENOUS DISEASE USING VENOSMIN AND LIOGEL.

Introduction. Chronic venous disease (CVD) is a common disease which manifests itself with a wide range of disorders requiring surgical and conservative treatment. Conservative therapy for CVD is based on the compliance with the three fundamental principles as follows: 1) change of lifestyle and correction of functional disorders using physical methods; 2) pharmacological therapy; 3) compression therapy.

Due to advances in micronization technology, efficacy of some drugs has substantially improved. One of the examples is micronized purified flavonoid fraction (MPFF), in which each of the active ingredients acts synergistically with diosmin. At the same time, micronization process reducing particles of active substances down to 2 microns increases absorption and dose-related efficacy of MPFF as compared with non-micronized forms, for which an increase in dose does not contribute to improved efficacy of treatment.

The aim of the research is to examine efficacy and safety of CVD conservative treatment by including Venosmin into the therapeutic program, as a representative of domestic MPFF, and Liogel.

Materials and methods. An open randomized non-comparative study of efficacy and safety of CVD complex therapy with Venosmin and Liogel in 60 CVD patients (19 males and 41 females) was conducted. The age of patients varied from 32 to 83, the average being 43.5 ± 9.6 .

Efficacy of the applied therapy was evaluated by analysing the dynamics of such clinical manifestations as feeling of heaviness in the legs, cramps, paresthesia, pain, skin itching, and certain objective criteria, including severe shin swelling (shin circumference measurement with a measuring tape at the level of the ankle), influence of the treatment on the wound healing and reduction of the area of trophic ulcers and improved microcirculation in the extremities by visualization methods (ultrasound Doppler imaging). The main CVD clinical manifestations were evaluated at control points in 5, 10 days and 30 days after the commencement of the treatment. The main criteria of assessing the results were: A) leg pain intensity as reported by the patient using a vertical visual analogue scale from 0 to 100 mm, based on feelings of pain or heaviness in the legs that were recorded in self-monitoring logs; b) assessment by the doctor of functional symptoms severity by interviewing the patients before and after the one-month treatment. This indicator was obtained as a result of summation of severity assessments for various symptoms, including pain and heaviness in the legs, swelling of the lower extremities, paresthesia. Each of these symptoms was evaluated with scores ranging from 0 points (zero symptom) to 3 points (severe symptom deteriorating the quality of the patient's life). The additional criteria of efficacy assessment were a) general opinion of the doctor, who assessed the adequacy of the therapy in each clinical case as very 'well-adapted', 'good', 'mid-adapted' or 'non-adapted'; b) general opinion of the patient who assessed the degree of his/her satisfaction with the treatment using such ratings as 'very much satisfied', 'satisfied', 'not much satisfied' and 'unsatisfied') by filling out a questionnaire before the enrolment in the study and after it.

Results. After 30 days of the conservative treatment, positive dynamics, reduced heaviness and intensity of pain syndrome and a decrease in swelling of the lower extremities were observed in most cases.

While prior to the treatment feeling of heaviness in the legs was reported by all the patients (n=60, 100%) and pain by 35 patients (58.3 %), after 10 days of Venosmin+Liogel combination therapy only 32 patients (53.3 %) presented with heaviness in the extremities and 19 (31.7 %) patients with pain. Before the therapy, nocturnal cramps were recorded in 33 patients (55%) and swelling in 48 patients (80%). After 10 days of treatment only 18 (30%) and 29 (48.3%) patients reported cramps and swelling, respectively. And after 30 days, these complaints prevailed in the relatively small number of patients - heaviness in the legs in 17 (28.3%), pain in 11 (18.3%), nocturnal cramps in 8 (13.3%), swelling in 13 (21.7 %) patients.

The main criterion for estimating efficacy of conservative treatment in the subgroup of patients with with shin trophic ulcers (n= 17) was healing or, at least, reduced area of the ulcers. The conservative treatment resulted in reduced area of trophic ulcers in all the patients. Besides, the therapy had a positive effect on the regeneration process. After Venosmin therapy for 30 days, trophic ulcers completely epithelialized in 6 of 17 patients (35.3%). In patients with unhealed trophic ulcers the affected area shrank to less than a half in 8 patients (47.1%); the remaining 3 patients (17.6%) noted positive dynamics, although the area of ulcers decreased by less than 50%.

After the treatment, marked improvement was observed in 32.2% of the patients, moderate improvement was recorded for 54.2% and only in 13.6 % the condition remained unchanged. In total, 52 patients (86.4%) evaluated efficacy of Venosmin and Liogel combination therapy as good.

The managing doctors estimated the therapy effect as good in 96.2% of cases and as satisfactory in 3.8%. No significant side effects which would require cancelling the therapy were revealed during the treatment. There were observed five intolerance cases (constipation, flatulence, nausea), including three cases of gastralgia which were successfully controlled using appropriate symptomatic therapy.

Conclusions. Venosmin and Liogel as the therapy components offer high clinical performance and can be used as a treatment for patients presenting with CVD of different geneses. According to the criterion of general efficacy, Venosmin+Liogel have the therapeutic effect equivalent to that of original foreign medicines and are

affordable for the treatment of CVD patients. This combination does not cause serious adverse reactions and is well-tolerated by patients, which allows recommending them for wide medical use.

Key words: chronic venous disease, venoactive preparations, micronized purified flavonoid fraction, venosmin.

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FEATURES TO PREVENTING POSTOPERATIVE INFLAMMATORY COMPLICATIONS IN LAPAROSCOPY IN EMERGENCY SURGERY

Introduction. Purulent-septic complications developing after surgery require additional use of drugs, the postoperative period is lengthened, increasing the period of disability of patients, which has a certain socio-economic importance. Development and introduction of new methods of prevention of septic complications is an actual problem of modern laparoscopic surgery.

Aim: To determine the effectiveness of the prevention of postoperative inflammatory complications using bacteriophages in laparoscopy in emergency surgery.

Material and methods. Results of treatment of 353 patients with acute surgical diseases of the abdominal cavity, which were performing laparoscopic surgery were applied adapted bacteriophages. For acute cholecystitis operated on 175 patients, of whom with generalized peritonitis – 6; acute appendicitis – 163 (with generalized peritonitis - 4); perforated duodenal ulcer – 15. Diagnostic program based on an

assessment of the clinical picture of the disease, general clinical blood and urine tests, biochemical, bacteriological and instrumental methods.

To rescue the abdomen with peritonitis used poliprotey bacteriophage sekstafag, intenstibakteriofag mixed bacteriophage. Fitting operation of bacteriophage superfused solution volume of 20-40 ml. In peritonitis, abdominal readjustment after saline NaCl, it was irrigated bacteriophage 50-200 ml in volume. Place container extraction gallbladder and vermiform appendix (trocar wound) sanitized bacteriophage 3-5 ml in volume. If damage occurs container overlapped seams and delayed wound on loosely-night swabbed with gauze soaked with bacteriophage. Microbiological studies abdominal exudate. Determined the sensitivity of pathogens to phage preparations.

Results. The study of sensitivity to the main representatives of microbes abdominal exudate to phage preparations showed that it exceeds the sensitivity to antibiotics of the respective pathogens in general. This is reflected in the clinical improvement of the patients on the second day after the laparoscopic sanations, reducing tachycardia 10-15 strokes in 1 min, reducing body temperature to subfebrile, indicators of endotoxemia (leukocyte index of intoxication level of the average molecular weight, the number of leukocytes). On the third day after the reorganization recovered bowel function. Festering trocar wounds were not observed, seroma occurred in 2 patients after cholecystectomy and 1 – after appendectomy, infiltrate soft tissues after appendectomy – 2, cholecystectomy – 2. Infiltrate in the abdomen in the area of operation was present in two cases: after appendectomy - 1 cholecystectomy - 1. Infiltration of soft tissue and abdominal regressed on the background of antibacterial therapy. To treatment were added physiotherapy. Mortality wasn't present.

Conclusion. Application of therapeutic bacteriophages can prevent the occurrence of septic complications of abdominal wounds and during performing laparoscopic surgery in emergency surgery.

Key words: laparoscopic intervention, acute cholecystitis, acute appendicitis, postoperative complications, bacteriophage.

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**VALUE OF MAGNETIC RESONANCE IMAGING TO STAGED
TREATMENT OF PATIENTS WITH PURULENT ULCERS IN DIABETIC
FOOT**

Introduction. The most serious late complication of diabetes mellitus (DM) is the diabetic foot syndrome (DFS). Each second DFS case results in amputation of one or both limbs, the disease occurring in 80 percent of patients in 15-20 years after the onset of diabetes. Presently, 4-5 percent of the world population suffer from DM. Every 12-15 years the number of DM patients doubles in all economically advanced countries, while diabetes itself is the world's most common endocrine disease. Around 1 million Ukrainians suffer from DM, the number of patients steadily growing. The purpose of our study was to determine the effectiveness of magnetic resonance imaging (MRI) of the affected foot in the preoperative determination of the level of foot amputation in patients with diabetic foot purulent-necrotic ulcers.

Materials and methods. Surgical treatment of 80 patients with diabetic foot purulent-necrotic ulcers has been carried out, with 36 (45.00 percent) men and 44 (55.00 percent) women. As part of the pre-operational instrumental diagnostics, we conducted two-projections foot radiography, as well as MRI of the foot. When assessing the diagnostic aid effectiveness in terms of the preserving amputation tactics and methods selection, the following factors were considered: characteristics of the osteoarticular apparatus of the foot, the foot aponeurosis condition; blood supply to the proximal and distal ends of the foot.

Results. During the first day, along with a comprehensive laboratory and instrumental examination and systemic conservative therapy, emergency surgery was performed in 12 patients (15.00 percent), which included incision of abscesses, phlegmons and burrowing puses. During the next four days, local changes were assessed and decisions on the need for radical debridement of infected ulcer or gangrene made. Regular local therapy bore great importance in the post radical foot surgery period, its intensity determined by the stage of wound process. MRI of the foot not only provided the assessment of the affected bone structure, but the longitudinal scan also gave a clear observation of bone destruction borders. When conducting a series of transverse scans, we considered not only bone density, which was the indicator of destruction processes, but also the state of the periosteum. In the case of destructive changes in the periosteum, a zone of reduced density was visible, its position lateralis or medialis to the bone, depending on the severity of the destructive process. The angiogram mode proved to be the most informative one for assessing the destructive changes in bone. MRI provided the characterization of the tendon apparatus of the backside and the plantar surface of the foot. Unaffected tendons were observed as anatomical formations of uniform medium density. Aponeurotic openings could be diagnosed with the help of transverse scans. In the case of burrowing puses, areas of low density were detected behind the tendon, their position depending on the spread of purulent process. When assessing blood supply to the foot by means of the two-dimensional angiographic mode, the nature of blood flow in front and rear tibial arteries was determined. If it was normal, blood vessels were detected in the form of winding formations of increased density. Further transverse scanning of foot allowed to assess the condition of blood flow in the distal ends. When it was normal, the blood vessels of the foot were detected as 3-4 spots of higher density at the level of proximalis heads of metatarsal bones. In the distal ends, the number of the spots increased to 7-8, however, they were smaller in size, which caused some difficulties in their verification.

Indication for amputation of fingers was their gangrene. This operation was performed in 28 patients (35.00 percent). In amputation of one or more fingers, a skin

graft was formed, for the sutures to be beyond the area of intense plantar pressure. In 14.29 percent of these patients suture failures occurred, and the wound was healed by secondary intention. Amputation of the metatarsal heads of instep bones was performed in 13 patients, drawing on the results obtained during the MRI. Transmetatarsal amputation was performed in 6 patients. In 4 patients, amputation was performed in Lisfranc joint. Atypical preserving amputation was performed in 21 patients. Any three-stage surgical interventions was regarded as an unsatisfactory result of treatment.

Conclusion. MRI of the foot is a highly informative method of purulent-necrotic process spread diagnostics in patients with DFS. The application of this method allows to estimate not only the state of foot osteoarticular apparatus, but also the integrity of the tendon-aponeurotic formations and blood supply to the proximal and distal ends of the foot. Preoperative MRI in patients with DFS allows to select the optimum type of radical sanitation of purulent process in the foot, and contributes to the improvement of the immediate results of surgical treatment.

Key words: magnetic resonance imaging, diabetic foot syndrome, diagnostics, treatment.

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**CLINICAL AND IMMUNOLOGIC EFFICACY CRITERIA OF THE
LOCALLY APPLIED COMBINATION OF LIASTENUM AND
LEVOMEKOL FOR TREATMENT OF AN EXPERIMENTAL PURULENT
WOUND**

Introduction. One of the main factors influencing treatment results of a purulent wound is the state of the immune resistance of the macroorganism. In the pathogenesis of the inflammation the essential role is played by the molecular and cellular mechanisms of the nonspecific immuno-protection both of the systemic and local levels in case of pyoinflammatory diseases of soft tissues. Thus, development of complex drugs having the local immunomodulatory, anti-inflammatory and antimicrobial effect is one of the prospective ways of this pathology treatment.

The work *objective*: to study the efficacy of the locally applied domestic immunomodulator of microbial origin Liastenum combined with the anti-inflammatory and antimicrobial ointment Levomekol.

Materials and methods. The experimental study was carried out using 32 mature Chinchilla rabbits. After modeling of a purulent experimental wound depending on the treatment method all the animals were divided into 4 groups. The first control group (CG-1) included the animals that were not treated. The animals of the second control group (CG-2) were applied the ointment Levomekol locally, the animals of the third control group (CG-3) - Liastenum solution. The main group of animals (MG) included the animals that were treated with Liastenum and Levomekol.

To assess the course of the wound process we determined the body temperature of the animals, clinical changes in the wound, leukocytosis, immunologic indices (phagocytic index (PhI) and phagocytic number (PhN), basal (spontaneous NBT) and induced (stimulated NBT) metabolic activity of neutrophilic leukocytes), neutrophilic granulocyte form factor (NGFF) in the blood smears taken from the marginal auricular vein (C), the wound area (L) and in the smears-imprints of the wound content (WC). All the studies were performed on the 1st, 3rd, 7th and 10th day. Blood study results of these animals before modeling of the pathological process were taken as normal levels for laboratory indices.

Results. During the observation period the rectal body temperature of the animals from CG-1, CG-2 and CG-3 was high while in the MG starting from the 7-8th day the temperature indices approximated to the norm. The local temperature index in the MG as compared to the animals of CG-1 and CG-2 decreased progressively from the

3rd-4th day already to the level of $37,5\pm 0,3^{\circ}\text{C}$. Changes of the leukocytosis level were insufficient during the whole observation period in CG-2 and CG-3, excluding CG-1 where this index increased up to $16,80\pm 0,53$ G/l with further gradual reduction to the initial level. In the MG reduction of leukocytes to the normal level was observed in the intact animals from the 7th day.

The animals of CG-2, CG-3 and MG showed a general tendency to increase of this level on the 3rd-7th day of observation with further reduction on the 10th day. PhI level was characterized by increase on the 7th and 10th day both in the systematic and local blood circulation in all the groups of the animals. But this index was the highest in the animals from the MG especially at the local level with a considerable increase on the 3rd day already.

The spontaneous NBT level of the systemic blood circulation in all the CG was characterized by increase on the 1st day, reduction on the 3rd day with further increase on the 7th and 10th days. At the same time there was a tendency to its reduction in the animals of the MG.

"Local" spontaneous NBT was characterized by reduction of its level below the norm in all the groups with further gradual increase of this index on the 3rd and 7th day and reduction on the 10th day.

Stimulated NBT indices of the systematic and local immunity of all the studied groups were characterized by the level lower than the initial one on the 1st day with their further reduction on the 3rd and 7th days and gradual increase on the 10th day. A more considerable increase of this index in the local blood could be observed in the animals from CG-3 and MG on the 10th day.

NGFF index of the animals from CG-1 and CG-3 had no significant difference within the whole observation period. In the animals of the MG and CG-2 it distinguished by a positive dynamics with its approximation to the initial level on the 7-10th days. But sharp reduction of NGFF indices of L and NGFF indices of WC could be observed in the animals of the MG on the 3rd and 7th day with further approximation of this index to the norm on the 10th day.

Objective assessment of the wound pointed at a more favorable course of the wound process in the animals of CG-2 and MG, especially of the latter.

Conclusion. Local application of the combination Liastenum-Levomekol for treatment of an experimental infected wound showed high clinical efficacy of this mixture. Clinical and immunologic indices over time show positive influence of the composition Liastenum-Levomekol on the cellular immunity link, also at the local level. NGFF index especially of the wound content is the most informative criterion reflecting the course of the wound process in case of an experimental infected wound.

Key words: experimental septic wound, liasten, levomekol, local immunity, form factor of neutrophilic granulocytes.

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THE DUODENAL DIVERTICULA'S VALUE ON DEVELOPMENT OF COMPLICATIONS OF ENDOSCOPIC TREATMENT

Introduction. Modern methods of endoscopic correction of choledocholithiasis and its complications enabled to significantly improve the results of treatment, showed economic benefits, reduced the rate of complications and mortality compared with open surgical procedures. The *aim* is to study the structure of complications after endoscopic papilosphincterotomy (EPST) in patients with diverticula of the duodenum (DD), compare their frequency with that of patients without diverticula, and indicate ways to prevent complications.

Materials and methods. The results of endoscopic treatment of 72 patients with choledocholithiasis, 32 of whom had duodenal diverticula, are presented, in the control group were 40 patients with diverticula choledocholithiasis without DD.

Patients in the experimental group performed perypapillary diverticula EPST cannula method by trying to cut spending papilotomy within the diverticulum wall, parallel to the longitudinal crease incision with a length of not more than 10-15 mm. When parapapillary CRD conducted dosage papilotomy electrode socket, after which it was performed by cannula method adequate for litextraction EPST. All patients in the control group performed EPST cannula method followed by litextraction. Complications are analyzed in each group of patients.

Results. Among patients in the control group reported complications in 4 cases (10%). No cases of duodenal perforation and deaths were not. Achieve full litoekstraktsiyi managed in 38 patients (95%). In the experimental group patients duodenal perforation cases and deaths also have been reported. Successful endoscopic intervention were 30 patients (93.7%). In the experimental group patients duodenal perforation cases and deaths also have been reported. Successful endoscopic intervention were 30 patients (93.7%). Lower successful interventions in patients experimental group due to anatomical features of pancreatic-biliary zone of patients with duodenal diverticula.

Conclusion. A number of preventive measures, that will enable to reduce the incidence of complications in patients with duodenal diverticula, are proposed.

Key words: choledocholithiasis, duodenal diverticula, endoscopic sphincterotomy.

Part 2

Clinical researches

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URGENT ENDOSCOPIC PAPILOSPHINCTEROTOMY PLACE IN COMPLEX TREATMENT OF ACUTE PANCREATITIS AND ITS COMPLICATIONS

Introduction. Acute pancreatitis - an acute surgical diseases, based on the enzymatic autolysis and necrosis of the pancreatic parenchyma and retroperitoneal fat with development of acute systemic inflammatory response and local destructive complications. The *aim* of our work was to study the results of treatment of acute pancreatitis with contemporary pathogenetic intensive therapy, miniinvasive surgical techniques, traditional kinds of surgery.

Materials and methods. The results of treatment of 250 patients with acute pancreatitis were analyzed. Easy pancreatitis was diagnosed in 190 patients (76%), heavy - in 60 patients (24%). The diagnosis of acute pancreatitis was set on the basis of clinical and laboratory data together instrumental examinations. In patients with pancreatic necrosis aseptic course had 38 patients (63.3%), positive - 22 (36.7%).

Results. Patients with edematous pancreatitis conducted basic form of therapy, which aims to create a body of physiological rest. In the scheme included antispasmodic, analgesic, anti-inflammatory, antyfermentni and antisecretory drugs, infusion therapy, detoxification. Browse zone large duodenal papilla allowed in 28.7% of cases identify the cause of biliary pancreatitis and in 91.1% of cases expeditious EPST to remove pancreatic-biliary hypertension.

Conclusion. Our experience in treating patients with acute pancreatitis and literature data suggest a preference of active and expectant tactics, which involves performing laparoscopic drainage operations in the early period in the enzymatic peritonitis, an increase in multiple organ failure syndrome on the basis of intensive care.

Overview zone papillary allowed a large number of observations to identify the cause of biliary pancreatitis. An urgent endoscopic intervention is justified and should be included in the standards of diagnosis and treatment of acute pancreatitis.

Key words: acute biliary pancreatitis, papillosphincterotomy, duodenal diverticulum.

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**PROGNOSTIC VALUE CYCLIC NUCLEOTIDES IN THE EVALUATION
OF FUNCTIONAL STATE OF LIVER IN PATIENTS WITH ACUTE
CHOLECYSTITIS**

Introduction. The article is devoted to an intent analysis of the research of level of the content of cyclic adenosine monophosphate and cyclic guanosine monophosphate in different age groups of patients with acute cholecystitis. One of estimation criteria of functional status of liver is the determination of the content of cyclic nucleotides on different stages of treatment of acute cholecystitis.

Materials and methods. 40 women with acute cholecystitis served as the material for consideration. The patients were divided into groups: 1) age 20 – 39; 2) age 40 – 49; 3) age 50 – 59; 4) age 60 and older. All of them underwent cholecystectomy .The level of nucleotides was tested with the help of Ria Kit Amersham reagents (Great Britain) on the day of operation, then on day 3 – 5 and 7 – 10. The level of cyclic nucleotides in the abovementioned groups was compared with donor indices.

Results. The findings showed that acute cholecystitis caused significant changes of the level and correlation of cyclic adenosine monophosphate and cyclic guanosine monophosphate in all groups of patients. Intensity depends on the age. The severest disorders are revealed in the 4th group, which coincides with earlier results [Davydov, 2004] of morphological research. It can be concluded that the level of cyclic nucleotides in blood of patients with acute cholecystitis reflects

morphofunctional state of liver and can serve as one of criteria of prognosis of acute liver impairment.

Conclusion. Upon the research conducted it was stated, that acute cholecystitis causes the reduction of content of cyclic adenosine monophosphate and the rise of cyclic guanosine monophosphate. The intensity and depth of the revealed changes depended on the age of patients. Cholecystectomy facilitated a certain renewal of the content of cyclic nucleotides and the increase of coefficient of their correlation. It is noted, that during postoperative period the renewal of indices of the content of cyclic nucleotides to their physiological level is going extremely slowly and even day 7-10 shows their significant difference. Patients of the age 60 and older have this process particularly slow.

Key words: acute cholecystitis, cyclical nucleotides.

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ENDOSCOPY INTERVENTION IN TREATMENT OF THE POSTCHOLECYSTECTOMY SYNDROME

Introduction. Despite all efforts and experience of domestic and foreign scientists and physicians, the trend toward increased incidence of diseases of the gallbladder and biliary tract consistently remains, therefore increasing the number of surgical interventions (cholecystectomy) and cases postcholecystectomical syndrome (PHES), including such forms as it residual choledocholithiasis, strictures, choledochal stenosis (including outside), foreign bodies, perypapillar duodenal diverticulum, cholangitis, which are the subject of our study. The *aim* of the study is to improve

treatment outcomes PHES by developing integrated endoscopic treatment and comparative characteristics of open and endoscopic surgical repair it.

Materials and methods. The results of operative treatment of 34 patients with postcholecystectomy syndrome were analysed. Different methods of endoscopic interventions were performed in 17 patients, who became to the general group of investigation. And open surgical interventions were performed in other 17 patients, who amounted the control group of research. The main indicators we have researched were: the continuance of surgical intervention, the postoperative number of bed-days and the events of complications.

Results. According to the obtained results, in general group all indications were significantly smaller: the continuance of surgical intervention, the postoperative number of bed-days and events of complications – in compared with control group.

Conclusion. Comparative analysis of two groups of patients PHES - basic and control showed that mini-invasive treatments PHES have the following advantages over open surgery: significantly lower number of postoperative complications - 5 cases (4 cholangitis, pancreatitis 1); significantly shorter duration of surgery, which averaged 35 min; significantly less patients stay in the hospital after surgery, which averaged 3 days.

Key words: intervention endoscopy, postcholecystectomy syndrome.

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EFFICACY CRITERIA FOR ELECTRIC WELDING OF SOFT TISSUES IN HEMOSTASIS DURING LAPAROSCOPIC SURGERY

Introduction. Up to the present time, the choice of optimal hemostasis method to be used during endoscopic surgery is a widely discussed issue. Electrocoagulation is the method of choice in endoscopic surgery today; however, high frequency electric power in surgery can be a source of major complications, with complication incidence of 0.5 to 12% and mortality rate of up to 11%.

Aim of the study: to enhance the quality of surgical endoscopic procedures performed, reduce the number of complications and study the possibilities of improving treatment results by introducing new hemostasis methods in the laparoscopic environment using electric welding of soft tissues (EWST) developed at the E.O. Paton Electric Welding Institute of the Ukrainian National Academy of Sciences.

Materials and methods. The clinical study involved 226 endovideosurgical interventions performed by the staff of the Department of General Surgery and Surgical Pathology of the Faculty of Dentistry of M. Gorky Donetsk National Medical University within 2008 and 2013, during which intraoperative bleeding occurred. The main group included 122 (53,9%) laparoscopic operative interventions which were performed making use of the EK-300M1 high frequency electrocoagulator. In order to compare the results of the electric welding (electrothermo-adhesion) technique application, a reference group was selected; it included 104 (46,1%) laparoscopic operations, where hemostasis was achieved by other methods of electrosurgery. The results of endoscopic hemostasis during intraoperative period were evaluated using the following criteria: time required to achieve hemostasis; hemostasis stability during operation; technical convenience to perform the operation; duration of operative intervention; intraoperative complications; concentration of IL-1 β , IL-6, TNF α cytokines in peritoneal fluid and blood serum on the 1st and 3rd day after the surgery.

Results. When analyzing the intraoperative period in the reference group, we demonstrated that the use of electrocoagulation, especially in conditions of evident inflammation of tissues or process of infiltration and adhesion, can be accompanied by a number of undesirable electrosurgical effects. Pronounced thermal changes took

place in the tissues during coagulation. Application of the electric welding technique during operations on parenchymatous organs did not bring about any problems in achieving hemostasis. In cases of bleeding from the damaged vessels, after clear visualization of the bleeding source, the bleeding vessel stump was kept in place by laparoscopic welding clamp of the EK-300M1 unit and its lumen was welded in the “welding” mode. In this case there were no special restrictions with regard to the caliber of the vessel; successful and stable hemostasis was achieved on bleeding vessels of medium and large caliber having diameter of 8 mm and more. Welding impulse was applied to the damaged area when good visual control over the performed manipulations was established, with the accompanying stable hemostasis, resulting in no tissue charring or formation of a pronounced coagulative necrosis zone. Surgery time was significantly reduced basically by means of the time spent to achieve hemostasis which drastically decreases when the soft tissue welding unit is used. When performing electrocoagulation, hemostasis proved to be absolutely inefficient in 10 (9,6%) cases in the reference group, which made it necessary to convert the operation into an open one. When studying concentration of pro-inflammatory cytokines IL-1 β , IL-6 and inflammatory marker TNF α using polarization fluoroimmunoassay on the 1st and 3rd day after the surgery, it was noted that on the first day there is a significant increase in concentration of both pro-inflammatory cytokines - IL1 β and IL6 – and TNF α (more than twofold). Then IL-1 β concentration drops, but its reduction in the reference group is by far less than in the main group. There are no notable differences in the dynamics of IL-6 concentration changes, although its concentration in the main group is significantly lower. One of the inflammation indicators (TNF α) demonstrated almost 5-fold increase in the main group on the first day, and 2-fold decrease by the 3rd day. In the reference group its concentration increased 6-fold, and by the 3rd day it decreased by 9 mcg/ml. When studying changes in concentration of these cytokines in peritoneal fluid, we noted the same tendency as in the blood serum. These facts are indicative of a longer duration of the inflammatory process in the reference group, which might be attributed to denaturation of tissues and proteins when bipolar coagulation is used.

Conclusion. The use of EWST made it possible to reduce incidence of intra- and postoperative complications in comparison to the use of bipolar coagulator, and also to significantly enhance safety of laparoscopic interventions. Blood loss is less when the electric welding technique is applied, as compared to bipolar hemostasis methods. Duration of operative intervention using the electric welding technique was greatly reduced in comparison to bipolar coagulation. High frequency electric power of the EK-300M1 unit utilized to perform hemostasis has a number of advantages over high frequency electric power during laparoscopic procedures. Application of this technique augments possibilities of endovideosurgery, opens up new prospects for the further improvement, simplification and quality enhancement of the operative interventions performed.

Key words: electric welding of biological tissues, hemostasis.

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**ANATOMICAL AND TOPOGRAPHICAL CIRCUMSTANCES, AS A
INTRAOPERATIVE RISK FACTOR FOR COMPLICATIONS IN
LAPAROSCOPIC CHOLECYSTECTOMY**

Introduction. Laparoscopic cholecystectomy is a recognized „gold standard” treatment of surgical pathology of gallbladder [Norman, 2011]. However, despite 25 years of experience of its wide use, standartization of specific surgical interventions protocols and rapid improvements of surgical technique, intraoperative complications remains threatenning attribute of laparoscopic cholecystectomy — that is, their absolute incidence remains unchanged in recent years. Into dangerous complications that can occur during laparoscopic interventions are included: extrahepatic billiary

tract injury, damage to abdominal organs and massive bleedings in the surgery area [Галлингер, Карпенкова, 2007; Генюк, 2008]. Thus, if during an open cholecystectomy, damage to the biliary tracts are observed in 0,005-0,1% cases, than during the laparoscopic intervention it rises to 0,3-1%. The high rate of complications is the result of the mastering technique period (so called «learning curve») [Ничитайло, 2013], inflammatory and morphological changes in the zone of skeletonization and anatomical and morphological features. Often threatening complications combined with iatrogenic intraoperative injuries of the anatomical structures, requires conversion. Complications that occur during the laparoscopic interventions, remains these negatives factors that reduce main advantages of the laparoscopic technology. Given the above, it is now an ongoing research for available measures to prevent these complications, by using additional methods of examination, improved tactical approaches and improve intraoperative visualization. The *purpose* of the study – to analyze the objective circumstances, that complicate the laparoscopic cholecystectomy procedure, or threatened occurrence of intraoperative complications in surgical pathologies of the gallbladder.

Materials and methods. In the retrospective study for 2009-2013 laparoscopic protocols from surgical interventions in the gallbladder pathology were elaborated, in surgical clinic №1 Danylo Halytsky Lviv National Medical University (II and III surgical departments of Lviv Oblast Clinical Hospital). Selected, questionnared and profoundly analyzed clinical cases which were subject to following criteria for involvement in study: Laparoscopic cholecystectomy, which ended with the conversion; Laparoscopic cholecystectomy, during which changes were noticed to topographical and anatomical structures of hepatobiliary zone; Laparoscopic cholecystectomy, during which intraoperative complications were present, requiring additional surgical procedures. There were questionnared and anlyzed: type of surgical intervention, nosological structure of postoperative diagnosis, topographical and anatomical features of hepatobiliary zone and several other parameters. The results were made in form of statistic.

Results. In Danylo Halytsky Lviv National Medical University Clinic of Surgery №1 throughout 5 years have been treated 3932 of patients with surgical pathology of the gallbladder, which 3079 of patients with chronic calculous cholecystitis, 853 – acute calculous cholecystitis. Correlation of chronic calculous cholecystitis and acute calculous cholecystitis were 3,6:1. In general, 3746 patients were operated, including all patients with acute calculous cholecystitis (853 patients; 100 %), patients with chronic calculous cholecystitis 94 % (2893 patients), operations were not performed in 186 patients. In the structure of surgical interventions the laparoscopic procedures dominated - 98% of interventions, open surgery cholecystectomy in 2% of patients, it should be noted that in the USA, the percentage of laparoscopic cholecystectomy was 90% [Steiner et al., 1994]. In general, the ratio of laparoscopic vs open interventions was 45:1, that means for 45 laparoscopic interventions there is only one open cholecystectomy, performed usually with acute cholecystitis or technical difficulties in implementation of laparoscopic method. After the results of analysis and research criteria from 3665 laparoscopic cholecystectomy, 30 protocols were selected, which were subject to research criteria and were treated as “difficult laparoscopic cholecystectomy”. All the surgeries were carried out with technical difficulties and carried on in the cases of: acute calculous cholecystitis (14 cases; 47 %), chronic calculous cholecystitis (11; 37 %) or chronic calculous cholecystitis with choledocholithiasis (5; 17%). In general from 3665 laparoscopic cholecystectomies, less than 1% of interventions were subject to criteria: „Difficult laparoscopic cholecystectomy”. Namely, every 122 laparoscopic cholecystectomy, regardless of the evidence and nature of basic nosology, was conducted with technical difficulties. A peculiar objective justification of laparoscopic cholecystectomy severity, was high incidence of forced conversions into open surgical intervention, which in analysed group was 42% (13 from 40 cases). In fact the ratio between laparoscopic cholecystectomy and open cholecystectomy was 1:1. It should be noted, that we were unable to detect the frequency of the conversions depending on learning curve and surgeon experience [Gouma, 2006]. Thus, the escalation of the risk factors combined with the intraoperative circumstances leading to the transition into conversion. The

frequency of the conversions in Europe is constant and it is around 7,5 % [Gouma, 2006], that is the transition into open intervention for the correction of intraoperative complications in our clinic it is less than 1%. In this case, the difference between the average European indicators and Ukrainian is 6%. In chronological analysis of frequency of the conversions it was stated, that it has attributive character, that is for a sustainable period of time there is constant number of of laparoscopic cholecystectomies that ends in constant number of conversions (1-6 conversions / 700-800 laparoscopic cholecystectomies). The final phase of the study involved the analysis of the circumstances, that led to transformation from conventional laparoscopic cholecystectomy into difficult laparoscopic cholecystectomy. The analysis found 59 circumstances, that were the causes of forced departure from the standard protocol in 30 laparoscopic cholecystectomies, that means in every intervention were recorded 3 circumstances, that required additional surgical manipulations and in some cases predetermined appearing of the complications, that according to de Silva M definition are “Classical traumas” [Silva, 2010]. In the structure of the intraoperative circumstances prevailing factors, that were results of the inflammatory changes, such as adhesive process in 26 cases (44%), infiltration in 24 patients 24 (41%) and perivesical abscess in 2 patients. Topographical and anatomical structure changes were causes of complications in 5 cases, vascular variability in 2 cases and external biliary tracts variability in 3 cases. However, the inflammatory changes combined with anatomo-topographical variability complicate the laparoscopic cholecystectomy in 2 cases. Taking into account the various origins of mentioned changes and their potential negative influence into complexity of surgical intervention, we divided topographo-anatomical changes of the hepatoduodenal zone into 3 groups: I group – congenital variability of Calot’s triangle structures, II – acquired changes from the inflammatory or productive processes. III – changes, caused by inflammatory- productive processes on a background of structures variability (example. – Mirizzi syndrome). General scheme and structure of the circumstances which predetermined severity of the laparoscopic. In our consideration, stratification of the anatomo- topographical changes of the

hepatoduodenal zones is significant from the practical point of view, because it isolates leading intraoperative risk factors, which not only complicate laparoscopic cholecystectomy, but also form a basis for intraoperative complications occurrence in general and in our research – damage to the external biliary excretory ducts (2 patients; 7 %) and vessels (5; 17 %). However in the world the frequency of that injuries it is about 1%, and damage to the external biliary ducts is 0,63% and vessels of the hepatobiliary zone 0,52% [Silva, 2010].

Conclusions. Laparoscopic cholecystectomy is the method of choice in the treatment of surgical pathology of gallbladder and it covers 90 % of surgical interventions in this pathology. Regardless of the character of the basis pathology, every 120 laparoscopic cholecystectomy (1%), is performed on the background of significant anatomical and topographical changes, which dramatically increase conversion risk (42%) and intraoperative complications (1%). However high incidence of intraoperative complications in laparoscopic cholecystectomy and conversion into open surgery are having attributive character, and does not depend from the learning phase. In fact the combination of the intraoperative complications supplemented with circumstances could transform conventional laparoscopic cholecystectomy into difficult one. It should be noted, that anatomo- topographical changes are crucial in the formation of the causes of intraoperative complications. Thus, the key direction for the prevention of the complications is the improvement of differentiation of the anatomical formations, by improving intraoperative imaging methods.

Key words: calculous cholecystitis, laparoscopic cholecystectomy, complications.

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AIDS - POSITIVE VICTIMS WITH A POLYTRAUMA: DIAGNOSTICS OF INFECTIOUS COMPLICATIONS

Introduction. Multiple injuries in Ukraine grew out of medical grade and becomes a medical and social problem. Increase in the number of multiple trauma injuries in the structure of the population not only does not decrease but rather increases rapidly.

The aim of the study was to investigate prokaltsytoninu blood as a marker of inflammation in patients with polytrauma with the presence or absence of HIV infection.

Materials and methods. In order to fulfill the purpose of research , we analyzed the diagnosis and treatment of 74 victims of polytrauma and other infectious complications are hospitalized in one of the city hospitals. Men were 51 people (68.92 %), women under 23 (31.08 %). The age of patients ranged from 18 to 66 years. The 44 victims (59.46 %) cause of trauma was traffic accident in 19 victims (25.67 %) - criminal injury , 10 - Domestic trauma, 1 - the cause of the injury is unknown. The severity of the condition was evaluated on a scale APACHE -II. On admission to hospital she averaged $29 \pm 3,5$ points, and the severity of his injuries on a scale ISS was $34 \pm 3,1$ points. All the victims were divided into 2 groups. The first group included 48 casualties with polytrauma , infectious complications and negative response to HIV, the second group of 26 victims with polytrauma and infectious complications of verifikovanoyu HIV. HIV - infected or affected determined in the process of verbal contact (acceptance of the patient and relatives) or as a result of rapid diagnosis . All the victims were determined by quantitative prokaltsytoninu (SIC) of 1, 3 and 9 days of treatment . In all studies used a marker produced commercially by BRAHMS Diagnostica CmbH. Berlin. Germany.

Results. To attack any agent body meets the general adaptive response in the interest of the whole organism. Reactions can be formed at once or over a period of time. Deployment time steps the agent formation and responses determine the nature of the disease. Rising concentrations of PCT starts only when layering superinfection. SIC - test can be used to differentiate bacterial superinfection and inflammatory response

with fever (flare - ups). These diagnostic capabilities not have tumor necrotizing factor and interleukin 6.PKT test - a promising marker because of its high sensitivity and specificity, but not suitable for use with victims of HIV infection.

Conclusion. Diagnostic value of PCT levels in patients with HIV - infection is not high and can not be safely applied to this category of patients.

Key words: polytrauma, infectious complications, procalcitonin.

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THE WAYS PROPHYLAXIS OF PURULENT COMPLICATION IN PATIENTS WITH COLON CANCER

Introduction. Surgical interventions at colon cancer carriers are accompanied by high mortality rate and high frequency of postoperative complications up to 14 – 42,7%. Pursuant to literature data the number of pyoinflammatory complications amounts to 12,9%.

Materials and methods. Impaired immune resistance of oncologic patients as well as technology of conducting of extensive and often traumatic operations contributes hereto. The results of treatment of 46 patients with colon cancer, treated by means of laparoscopically assisted operations, have been analyzed in the article. Tumor localization in cecum has been identified at 18 (39%) of the patients, in ascending colon – at 3 (6,5%), in transverse colon – at 1 (2,1%), in splenic flexure – at 3 (6,5%), in descending colon – at 6 (13,3%) and in sigmoid colon – 15 (32,0%).

Results. In 24 (52,2%) cases the tumor has attached all layers of intestine walls (T3), at 15 (32,6%) of patients – muscular layer (T2), at 7 (15,2%) – neighboring organs (T4) such as small intestine and abdomen walls.

Mobilization of the complex to be removed with the tumor has been conducted by means of video laparoscopy. Then the mobilized complex in container has been exteriorized on the anterior abdominal wall through small-size incision, it has been excised and the enteroenteroanastomosis has been formed. Suppurative complications have appeared at 3 (6,5%) of the patients as partial anastomotic dehiscence (2) and wound abscess (1).

Conclusion. The usage of electric scalpel and traumatization absence of the very tumor by instrument or surgeon's hands contributes to the reduction of the number of the suppurative complications. The absence of evident pain syndrome enables early restoration of peristalsis and early activation of the patients, what is considered to be, in its turn, the prevention of the suppurative complications.

Key words: colon cancer, laparoscopic surgery, purulent complications.

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THE EFFECTIVENESS OF ENDOLAPAROSCOPIC TREATMENT OF PANCREATIC PSEUDOCYSTS IN POSTPONED POSTOPERATIVE PERIOD

Introduction. The principles of surgical treatment of pancreatic pseudocysts cardinally changed in connection with miniinvasive methods development. The important place was taken by the surgical endoscopy which during the last years becomes the operation of choice in many surgical diseases, and, particularly, in pancreatic pseudocysts treatment.

For the leadthrough of drainaging operative interferences endoscopic technologies technically can be applicable in 71-100% of cases. Thus similar interferences differ by the low number of complications and high efficiency of cystic cavity closing. However a lot of drainaging interferences of different types application results require a study in the remote period of treatment.

Therefore the purpose of the real research was a study of comparative efficiency of remote results of treatment of patients with the pseudocysts of pancreas with the use of laparotomic and endolaparoscopic drainaging interferences.

Materials and methods. Experience of miniinvazive and «open» treatment of the pancreatic pseudocysts is in-process analysed. From 2005 to 2011 the results of surgical treatment in 148 of patients with pancreatic pseudocysts were analysed. 75 of them were operated in clinic with the use of miniinvazive surgical methods. Men there was 105 (71,0%), women – 43 (29,0%). The age of patients is averaged for 43,6+ 1,21 years (from 24 to 71 year).

In 63 of them laparotomic and in 75- endo-, laparoskopik intervention were executed. The remote terms after the operation were inspected in 52 and 59 of patients respectively.

The results of researches were underwent to statistics with the usage of generally accepted in medico- biological researches criteria of distinctions estimation between the groups.

Results. Complete regress of cystic cavity is marked in 80,9% of patients with the external drainaging and in 84,2% of patients with the internal drainaging. At the same time, the partial closing of cystic cavity took place in 14,3% of patients with opened and in 13,2% of patients with the internal drainaging. The relapse of cyst was marked in 2 of patients (3,4%), that was reliable less than, than in patients with laparotomic interferences.

The conducted researches found that in patients with the «opened» operative interventions the results from the internal drainaging were better, than in patients with the external drainaging, while for patients with miniinvazive interferences the results of treatment did not depend on the type of cyst drainaging. It should be noted that

operations of the internal draining are more preferable and give more positive results in comparison to the operations of the external draining.

The important result of the conducted analysis is the fixed fact of diminishing of pseudocysts relapse risk in remote period. Thus, this effect is marked as a result of application of different types of cystic cavity draining. At the same time, important is a question of dependence of this effect from the initial size of cystic cavity, including the comparison with laparotomic interferences efficiency which are mainly used for the resection of cysts.

Conclusions. The application of miniinvasive interferences in comparison to the laparotomic methods of pancreatic pseudocysts treatment provides rapid closing of cystic cavities (accordingly at 84,7 and 15,4%), declining of cysts relapses frequency, which was marked accordingly in 23,1 and in 3,4% of cases. In the conditions of miniinvasive treatment application the number of the repeated interferences went down in comparison to the laparotomic methods of treatment – from 63,5% to 42,4%, and also the number of the repeated hospitalizations of patients - from 88,5% to 59,3%.

Key words: pancreatic pseudocysts, miniinvasive operations, drainage of the pseudocysts.

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MODERN ASPECTS OF POSTOPERATIVE ANALGESIA IN PATIENTS WITH NONCANCER OBSTRUCTIVE JAUNDICE

Introduction. Background surgical treatment of obstructive jaundice due to non-cancer etiology high rates of postoperative complications (10.4 - 52.3%) and

mortality (3.8 - 46.2%). The subject of discussion is the choice of technology individualization surgery. The work *purpose* – to give a comparative assessment of efficiency of postoperative anesthesia, using the preparation "Nalbufin", at patients with noncancer obstructive jaundice.

Materials and methods. This paper analyzes the results of surgical treatment of 510 patients with obstructive jaundice nontumoral etiology who had used different tactics and combination of traditional and minimally invasive surgical techniques.

The postoperative results were evaluated from the perspective of optimal quality of life indices of the operated patients and the control of the main group in the early postoperative period and ballroom assess the effectiveness of postoperative analgesia.

Results. The use of the optimized algorithms of postoperative supervising of patient and control after the postoperative analgesia was accompanied with the reliable growth of quality of life of patients of the basic group in an early postoperative period after the physical component of health by 48.7% (functioning – physical by 7.33% and role – by 21.41%, intensity of pain – by 5.85%, general state of health – by 14.11%), the psychological component of health – by 37.48% (vital activity – by 10%, functioning: social – by 9.54% and role – by 14.17%, psychical health – by 3.77%).

Conclusions. Including in complex protocol of perioperative supervision of patients from obstructive jaundice nontumoral etiology of preparation of «Nalbuphin» provides diminishing of amount of postoperative complications by 10.26% from 16.87% to 6.61%, that allows to attain the adequate criteria of uncomplicated postoperative flow after implementation of onementaly radical and stage surgical interferences which were realized by the use of traditional laparotomic and miniinvasive (laparoskopic, endoskopic, through a skin transhepatic) operations.

Platoon is about the effectiveness of using the drug «Nalbuphine» for adequate monokomponents analgesia in patients with obstructive jaundice nontumoral etiology using both laparotomic and minimally invasive surgical techniques.

Key words: noncancer obstructive jaundice, traditional and miniinvasive surgical methods, postoperative analgesia, life quality in postoperative period.

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OPTIMIZATION OF THERAPEUTIC AND DIAGNOSTIC AND TACTICAL PRINCIPLES OF SUPERVISION ACUTE BILIARY PANCREATITIS IN PATIENTS WITH DIABETES MELLITUS

Introduction. The interest of scientists with complex surgical treatment of patients with acute pancreatitis of biliary etiology is supported by active growth of the incidence of gallstone disease and increasing the number of combined biliary complications. The epidemiological situation is complicated by the accumulated growth combined accompanying somatic pathology, including within the metabolic syndrome - diabetes, obesity, coronary heart disease, hypertension, atherosclerosis, which aggravates the severity of the initial state of hospitalized patients increases the operational and anesthetic risk. *The aim* – to evaluate the clinical efficacy and prognostic the feasibility of using optimized medical diagnostic and tactical principles of principles of supervision of patients with acute biliary pancreatitis aetiology against the background of diabetes mellitus.

Materials and methods. 54 patients were examined with acute biliary pancreatitis aetiology (ABPE) and diabetes mellitus. Were studied the dynamics of cytopathic hypoxia markers and indicators of regional biliary protection.

Results. It was revealed that diabetes has an independent predictor of acute pancreatitis biliary etiology and occurrence of complications from bile duct.

Pronounced efficiency optimized conservative therapy aimed at raising correction tissue hypoxia, and regional technology based on the therapeutic effects of liposomal protected medical transport and combined effects of physiotherapy.

Conclusion. Treatment of patients by the acute biliary pancreatitis etiology in the presence of accompanying diabetes demands essentially new approaches concerning the principles of conservative escort of patients depending on the ABPE clinical-morphological form, severity of violations of a carbohydrate exchange, manifestations of hepatic dysfunction and diabetes complications, and it has objective reflection in dynamics of changes of indicators of the cytopathic hypoxia which correction is pathogenesis reasonable.

Diabetes in case of ABPE acts as an independent predictor of development of complications from extra hepatic biliary channels, and therefore demands an active and early biliary decompression low-invasive technologies, uses of methods of regional medical influence and application of the protected transport of medicament's factors on the basis of technology of liposomes in combination with the combined physiotherapeutic influence.

Key words: acute biliary pancreatitis, diabetes, treatment tactics, cytopathic hypoxia, regional technology.

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ARGON PLASMA COAGULATION FOR TREATMENT OF HEPATIC CYSTS

Introduction. Hepatopancreatobiliary diseases are leading among those causing disability and mortality. Social importance increases in all the countries of the world. This is due to increase of diagnosing of malignant neoplasms in this area caused by cirrhotic and cystic liver affection.

Cystic liver affection constitutes a special section of hepatology and is one of the nosological forms often met in the practical activity in recent years. After introduction of high-informative methods of diagnostics into the clinical practice, such as ultrasonic investigation and computer tomography, detection of cystic formations has become more frequent and at present it makes up about 1-2% per 100 thous. of people according to the data of V.O. Vyshnevskiy. So, this type of pathology requires more attention.

An asymptomatic course of the hepatic cyst disease makes it difficult to detect this pathology. Thus, in case of operative interventions during the early postoperative period such menacing complications as formation of external and internal fistulas, that are not revealed in the fibrous capsule during the echinococcus cyst excision, can be often observed. This leads to relaparotomies and chronic drainage carrying due to functioning biliary fistulas. The problems related to surgical treatment of cystic liver affection require searching of new minimally invasive operations with the use of new technologies.

Undoubtedly, such indices prove that in modern hepatology and hepato-surgery the problem of treatment of hepatopancreatobiliary diseases remains difficult and there are a lot of questions. Success of the modern hepatology is directly connected with the progress in surgeon's equipment and requires further research with its use and study of influence on the organs of the hepatopancreatobiliary area.

Materials and methods. The work has been prepared at Vinnitsa National Pirogov Memorial Medical University at the clinical base of the Department of Surgery with the course of endoscopic, laser and minimally invasive surgery at the Surgical Department of Vinnitsa Regional Pirogov Memorial Clinical Hospital.

The study is based on the analysis of 37 medical records of the patients with a hepatopancreatobiliary disease treated at the Surgical Department of Vinnitsa Regional Pirogov Memorial Clinical Hospital from 2008 till 2013. Among these patients the following structure of hepatopancreatobiliary diseases can be singled out: echinococcus hepatic cysts – 22; nonparasitic hepatic cyst – 15.

There were 6 (16,22%) men and 31 (83,78%) women aged from 18 up to 80 years.

According to the diagnosis the following study groups were formed, namely: main group including the patients with parasitic liver affection (cysts); control group – patients with nonparasitic hepatic cysts.

To consider direct consequences of all interventions for cystic liver affection the following indices were used: age, bed-day, type and volume of the operation, complications before and after the operation, repeated interventions, blood values before the operation, on the 1st, 3rd and 7th day, histologic data (zone of necrosis and zone of atrophy).

All the patients were taken anamnestic data and underwent primary examination: palpation, percussion, auscultation and objective instrumental examinations. After completion of all the examination methods required for confirmation of the diagnosis (patient's examination, blood analysis, ultrasonic investigation of the abdominal cavity, fiberoptic gastroduodenoscopy, computer tomography and consultations of adjacent field specialists) all the patients underwent planned operations.

80% of the operations were performed using new technologies (ultrasonic dissector and argon plasma coagulation), namely on excision and draining of cysts in 23 cases, on liver resection in 2 cases.

During operative interventions 17 patients from the main group underwent a biopsy of the argon plasma coagulation area of the cyst bed for the pathohistological examination.

Results. The analysis of the anamnestic data showed that before hospitalization 3 patients sought help, one of them underwent opening and draining of the cyst of the right lobe of liver. The other 34 patients complained of heaviness and pain in the right hypochondrium, general weakness increasing in time and bitter taste in the mouth. They applied for help after considerable deterioration of the state.

During the analysis it was revealed that the majority of the patients with hepatopancreatobiliary diseases had concomitant diseases and in 27 cases two and more concomitant diseases were observed.

All the patients were hospitalized in a planned manner, additionally examined by all the required instrumental examination methods. After that only one patient was

operated urgently within 6-8 hours since hospitalization, all the other patients underwent a more detailed examination. They received the required preoperative preparation and were operated within the 1st-6th days. The patients underwent urgent draining of the suppurative cyst under local anesthesia due to severe concomitant cardiac and renal pathology.

Before the operation 7 patients were diagnosed parasitic cysts, five of them took 800 mg of "Vormil" per day during 21 days for preoperative preparation and antiparasitic purposes according to the infectiologist's recommendations.

More often radical operations for cyst excision were performed: 15 cases (30%) in the main group. They were performed using the ultrasonic dissector with further ligation of great vessels and bile ducts and argon plasma coagulation of the cyst bed.

There were three cases (8,1%) of complications after the hepatic cyst excision in the postoperative period: the first one – bleeding from the cyst bed (against the background of developing disseminated intravascular coagulation syndrome), the patient was operated on twice to stop the bleeding and for the third time in the distant period to remove foreign bodies (tampons); the second case – "Acute gangrenous cholecystitis. Diffuse peritonitis", the patient was performed "Cholecystotomy. Sanation and draining of the abdominal cavity".

The blood values in both groups changed almost with similar deviations and corresponded to the normal organism response.

During the pathohistological examination the zone of necrosis and the zone of atrophy were determined in the area of the biopsy material. The zone of necrosis in the main group made up $0,71 \pm 0,05$ mm, zone of atrophy – $0,29 \pm 0,02$ mm.

So, hepatic cysts were more often observed in the patients aged from 51 up to 60 years, in the majority of cases the 7th liver segment was affected. Due to use of the argon plasma coagulation on operative interventions the level of complications in the patients with cystic liver affection reduced from 11,9% (according to the data of V.V. Chorny) up to 8,1%.

Conclusions. According to the histological results the zone of necrosis and zone of atrophy in the main group equaled $0,71 \pm 0,05$ mm and $0,29 \pm 0,02$ mm respectively.

While according to O.V. Maloshtan the zone of liver necrosis in case of the electric coagulation with the stream of compressed gas is about 0,8-1,3 mm. According to D.R. Visman the zone of necrosis in case of the classic coagulation equals from 3,0 up to 5,0 mm. So, comparing the received results of the liver necrotic zone in case of the argon plasma coagulation with the zone of necrosis in case of the classic coagulation according to the world literature we can observe the reduction of the zone of necrosis with further tendency to improvement of liver regeneration.

Key words: hepatic cysts, argon plasma coagulation, zone of necrosis.

METHODS

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THE CREDIT - MODULAR PRINCIPLE OF DISCIPLINE “GENERAL SURGERY” TEACHING: THE WAYS OF OPTIMIZATION IN CONTEXT OF CHAIR WORK EXPERIENCE

Credit – modular principle of teaching process organization, including on General Surgery Unit, for last years quite organically materialized as in consciousness as in practical pedagogic activity of teaching staff. However, this process cannot to accept as permanent, that don't need further improvement and development. Therefore, search of new original solutions of educational process optimization, introduction of the modern methodologies of teaching, that correspond to innovation technologies, create conditions for new level of acceptance of discipline with accounting of the work experience of concrete teachers teams, present undeniable interest.

The purpose of work was in generalization of the work experience of unit, relatively of optimization of discipline teaching for credit – modular principle. So, assimilation of theoretical knowledge of subject and mastering by practical skills and abilities should be based on the next fundamentals: elaboration of new teaching technologies, not standard approaches to traditional forms and methods of training, increasing of the tutors pedagogic skill.

Solutions of these tasks is possible at combination of two compounds, for example, dynamic, progressive development of teacher (pedagogic self – implementation, formation of the thinking new style in context of methodological base of teaching) and rating system of the student assessment of knowledge with taking account of the fixed criteria (knowledge monitoring, offset from traditional templates, initiative, perseverance, high self organization, creative approach, diligence).

The real lever of educational process optimization is need of the lessons carrying in according to elaborated and standardized algorithm of teaching. From point of view on this, on degree of preparation to practical lesson is advisable to use next principles such as elaboration of theoretic concept of the learning topic with perfect analysis of mechanism of its implementation, preparation and formation of the methodical materials package for implementation of every degree of pedagogic process with mandatory creation of criteria and methods for determination of results.

Conclusion. So, experience of the chair work allows to approve that optimization of theoretical knowledge teaching and assimilation of practical skills for subject “General Surgery” will be in introduction to pedagogic practice the systemic phased control for level of educational and teaching activity during all period of the students stay in university; elaboration of modern methodical software, that allows to carry out unified teaching of theoretical material by all teachers of unit; wide usage of didactic material (test control), as previous degree of implementation of purchased knowledge on practical lessons (during stay in surgical clinic); introduction and also in wide usage of rating methodology of the knowledge evaluation of every student.

Key words: credit – modular principle, discipline “General Surgery”.

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**STUDENTS SCIENTIFIC SOCIETY: PROBLEMS OF ORGANIZATION
AND DEVELOPMENT PROSPECTS IN THE CONDITIONS OF THE
CREDIT-MODULAR SYSTEM**

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Introduction. Important role in the development of clinical and research skills belongs student scientific society (SSS), a organization contributing to the quality of education and professional development of students, it accumulate experience, the creative growth, maximum use of scientific potential, to promote the development of research training system. *Objective:* to establish the motivation of the students for research work by fostering creative attitude to their profession through research, and to develop an interest in fundamental research for improving the quality of professional training of qualified scientific personnel.

Results. The work in the Department of General surgery is carried out in the following forms: the reviewing and annotating the domestic and foreign literature, immediate implementation of research (analysis of case histories of diseases); the participation in the contests of students ' scientific works, performance of scientific research materials in the form of reports, theses and articles; the participation in scientific conferences, the practical activity (participation in the operations, dressings, supervision of patients, night duty).

Summarizing the above, we can recognize the positive experience of the organization proposed work forms of the SSS in the University. For the students themselves

forming a scientific approach to practical activity has a beneficial effect on the clinical thinking and increases the creative part of the future of the medical profession. The presence of the student scientific publications improves their qualification level. For other scientific work contribution of students guys allows you to expand and increase the amount of research without additional effort of costs.

Conclusion. The transition to credit-modular system of education in the departments of surgery increases the percentage of independent work of students. The work of the SSS at the Department of General surgery in the conditions of the credit-module system is the "active form of learning surgical disciplines, the transition from information reporting form to modeling way of learning. The existence of the Department of the SSS allows you to fully compensate all "gaps" of "Bologna system" practical nature, necessary for mastering of the material.

Key words: student scientific society, the credit-modular system, scientific-research work.

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**INTERACTIVE TECHNOLOGIES OF TRAINING AND CLINICAL
MENTALITY OF STUDENTS OF JUNIOR COURSES OF MEDICAL
UNIVERSITY**

Introduction. The course “The Care of Children” makes it possible for students to understand purely clinical concepts: estimation of general condition, periodization of childhood, a course of disease and identification of peculiarities of diagnostic and differential search in childhood. Besides, students can make sure if there is a necessity to create different conditions for children of each age category at medical

and preventive treatment facilities and separate specific methods and means of care of little patients and also their disease prevention. Thus, the discipline “The care of patients” makes it possible to synthesize obtained knowledge in theoretic disciplines and analyse clinical data that help to form clinical thought of students of junior courses of medical universities. The research objective was to improve effectiveness of “The Care of Patients” discipline teaching by means of involving of interactive teaching technologies into educational process.

Materials and methods. During the practical classes of the course “The Care of Children” the technologies of collective-group training of students have been used for those who began to study a clinical discipline for the first time. There have been used the following forms of work: “Microphone”, “Brainstorming”, “Teaching-learn”, “Jigsaw”, “Unfinished sentences”, “A tree of solutions’. The peculiarities of abovementioned methods are increasing of interest to education, development of creative, productive thinking, teaching of communication culture, improvement of interpersonal relations. Moreover, active forms of teaching create business and creative environment, teach how to conduct a dialogue, a discussion, motivate to get self-education.

Results. In general, 75 students of the second year of studies, a Faculty of Medicine, have studied this discipline. The average age of students in academic groups – $18,5 \pm 1,5$ years old. Gender distribution in groups was as follows: $42 \pm 2\%$ of boys and $58 \pm 2\%$ of girls.

The most important for educational process including interactive teaching methods was the fact that about 9,33% of students had completed a medical education of the first level and had a qualification of “a medical nurse” and about 4% of student had a practical experience of taking care after patients in hospital departments of medical and preventive treatment institutions of the second level and primary health care. Plan of practical classes included 12 subjects in accordance with the working programme of the discipline study approved by Methodic Meeting of the Chair. The course “The Care of Children” has completed with assessment of current progress and a final module control including theoretical and practical issues.

Evaluation of students' progress concerning a discipline "The Care of Children" has demonstrated that 4 students (5,33%) were not allowed to pass the final module control (FMC) and among them 1 (1,33%) student was never present at classes. 2 (2,66%) students have got minimum number of points (17-19 points) for FMC, 3 (4%) students have got maximum number of points (26 points) and 22,45 (Picture No. 3) have got average number of points. The average number of points of current progress was 49,67 (when minimum number of points is 36 and maximum - 60 points).

Conclusion. The use of modern teaching technologies makes it possible to take into account individual and typological peculiarities and abilities of students, develops creative talents and helps to assimilate professional skills and experience, self-actualize for future clinicians. Involving of interactive teaching technologies into pedagogical process has allowed to improve academic progress concerning new teaching material for the students of the second course. The perspective of future research is as follows: to look for optimal models for combination of traditional forms and methods of teaching directed to assimilation of professional skills by students including interactive teaching technologies that will help to form clinical thought and individual development of future doctors.

Key words: pedagogical process, interactive methods, higher medical education, clinical thought, care of ill and healthy children.

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MODERN ASPECTS OF TEACHING THE DISCIPLINE "GENERAL SURGERY" BY THE CREDIT-MODULAR SYSTEM

Introduction. Clinical discipline "General Surgery" takes one of the leading places in preparation of a general practitioner and forms on the III course basis for further study of surgical disciplines by students. Teaching of General Surgery has been started in medical educational establishments of Ukraine using the credit-modular system since 2007-2008.

Materials and methods. Within the scientific-methodical work of the Department on improving methods of teaching using anonymous questionnaires of students and qualitative analysis the following results on teaching the discipline "General Surgery" for the last three years have been received.

Results. After 2005 reduction in 4 times of overall time for practical lessons took place. As a consequence there was the decrease of time meant for studying separate topics with significant increase of volume, growth of complexity and paces of mastering the studied material. Analysis of structure of a lesson on General Surgery witnesses the difficulties in carrying out main stages of the practical lesson. Test forms of control prevail during the lessons. It additionally increased the level of requirements to educational-methodical provision, more clear orientation on functions, tasks of future professional activity. The solution of this problem may partly be found in building structural-logical contents schemes on different topics.

Ukrainian medical literature has several leading publications on General Surgery nevertheless there are major differences in structure of the textbooks. Staffs of departments should consider and eliminate all possible disadvantages of main study materials by providing additional study-methodical materials. Obtaining by students of professional-technical skills is one of the key aspects in teaching clinical disciplines. Combination of theoretical knowledge and practical skills provides professional skills which grant the ability of the specialist to solve main professional tasks. The increase of level of mastering practical skills requires special material technical preparation and spending of time during practical lessons or additional off-hour time. It has been suggested to apply the cycle systems of study-productive practice on three clinical bases in turns during the spring semester since the following

year which might decrease the level of practical preparation of students due to short-term presence on each base and frequent changes of bases. Rating system of grading is multifactor and more objectively reveals the level of knowledge. Students require more carrying out of clinical examples and detailed teaching of subject topics, striving for closer communication with teachers.

Conclusion. It is necessary to continue work on processing and renewing study-methodical and material-technical provision of the medical process in accordance with the conditions of the credit-modular system. Demonstration of practical skills on the topics of the following practical lessons require separate time during the lessons. Module control over level of mastering knowledge is reasonable to be divided into two last lessons instead of one. Overall time for practical lessons is desirable to be increased 1.5 times. With the purpose of improving the level of mastering practical skills, study-productive practice is reasonable to be carried out as one cycle on one clinical base during the time separate from the study semester.

Key words: credit-modular system, general surgery, teaching.

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USE OF THE TEST METHOD IN STUDYING

Introduction. Due to transfer to the credit based modular learning and introduction of the licensing examinations “Step” it is required to practice the test method in studying. The work objective is to determine the optimal way of test performance and the method of its use in studying.

Materials and methods. The research involved 198 students. Depending on the applied method of test processing the students were divided into 4 groups. Each

student of the first group received an individual test. The teacher checked the students' test results during the lesson. For the second group the teacher selected 2-4 tests of different levels of difficulty and theme. The tests were read from the beginning till the end. The teacher selected 2-4 tests for the third group as well. But the tests were read from the end (from questions). Then the last but one sentence was read (it included the information about the diagnosis). Then variants of the answers were read. After that the students read the test text keeping in mind the variants and results of their sorting. The method applied in the fourth group was similar to that of the previous group. But the variants were not read deliberately. After learning the contents the students gave their own answer.

Results. The best results were in the 3rd group, the number of correct answers increased up to 78%. Team analysis of 2-4 tests under supervision of the teacher turned out to be better for studying. This method is more effective, it does not require a lot of time and uses it efficiently. In the fourth group (where one's own variant was offered) the teacher also asked clarification questions and evaluated the results. The variants offered by the students and reasoning skills were considered as well. At the average a part of correct answers made up 71%. But among well-educated students it increased up to 81% and among other students it made up 65% .

Conclusion. During studying it is better to make a team analysis of 2-4 tests under supervision of a teacher. This method is more effective and productive, it does not require a lot of time and uses it efficiently. During the examinations one should read the test text starting from the question, then group variants of the answers and determine the correct one while reading.

Key words: testing, “Step”, knowledge assessment, organization of the studying process.

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**FEATURES OF TEACHING THE COURSE “FIRST PREDOCTOR CARE”
AT THE DEPARTMENT OF GENERAL SURGERY TO FOREIGN
STUDENTS WHO STUDY WITH THE MAJOR “PHARMACY”**

Introduction. Preparation of specialists for foreign countries is an important aspect of Ukrainian international cooperation. At present SE “Dnipropetrovsk Medical Academy of Ministry of Health Care of Ukraine” carries out preparation of specialists with higher medical education for many foreign countries.

Materials and methods. On the II course of the autumn semester foreign students, who study with the major “pharmacy” at the department of General Surgery study the discipline “First predoctor care”. With the purpose of improving the studied skills for each lesson a set of algorithm of actions has been developed to master practical skills for the course First predoctor care (study of desmurgy, methods of hemorrhage arrest, immobilization of limbs in case of injuries, initial processing of wounds and burns, first medical help in case of poisoning and urgent conditions of patients and so on).

The positive factors of studying the discipline are the following aspects: 1) determination of level of theoretical preparation of foreign students on the topic of the practical lesson is carried out during a short period of time 10-15 minutes, with the help of test control; 2) such a control of theoretical knowledge is most objective according to the opinion of students themselves; 3) each student had a chance to independently carry out necessary practical skills on dummies, moulages or one student on another student (application of bandages, splints, tourniquet, pressing vessel by a finger in case of hemorrhages and so on); posting study and methodical materials for each practical lesson on the web page on the site of Medical Academy in the Internet.

Negative aspects in the study of discipline “First predoctor care” are the following: 1) foreign students of the II course there remains a certain language barrier in

communication with teachers at the level of medical terminology; 2) a big number of students in groups (12-15 students) negatively affects the quality of preparation, which makes individual work with students and control over quality of the mastered practical skills more difficult; 3) lack of knowledge in foreign pharmacy students at the beginning of the II course of such basic disciplines as pathological physiology and anatomy, pharmacology which makes more difficult the understanding of pathological processes which occur in the body of the patients or injured patients who require rendering urgent first predoctor care.

Results. The existing variant of credit-module system of studying the clinical discipline “First predoctor care” at present is more directed at theoretical study of them material. We consider that it is necessary to decrease the influence of the mentioned negative aspects on the level of mastering practical skills on first predoctor care by foreign students. It is necessary to apply in study methods not only elements of distant study of self-study materials for topics of practical lessons, but also methods of distant control and self-control over mastering theoretical knowledge on the given discipline in the system of Moodle.

Conclusion. Having optimized methodology of teaching the clinical discipline “First predoctor care”, we will increase the motivation of foreign students to study and master knowledge of First predoctor care.

Key words: first predoctor care, foreign students.

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**USING OF INTERACTIVE TECHNOLOGIES OF THE COOPERATIVE
LEARNING DURING THERAPEUTIC DENTISTRY LESSONS IN THE
STUDENTS OF MEDICAL UNIVERSITY**

Interactive educational technologies have great potential for providing of cognitive activity, self-development and self-realization of the students, improving the quality of their training as a whole. A variant of interactive technology is a method of cooperative learning of the students in small groups that promotes high results in mastering of knowledge and forming of abilities.

The purpose is the introduction of interactive technologies of cooperative learning as one of the direction of improving of the teaching process during therapeutic dentistry lessons in the students of Vinnytsya National Medical University for achieving high results in mastering of knowledge, practical skills, formation of clinical thinking in the future specialists.

During practical lessons of therapeutic dentistry the teachers use the following methods of cooperative learning: “Brainstorm”, “The Joint Project”, “Finding Information”, “The Method of Competitive Groups Combined with the Discussion”. Technologies of this type are quite complex in the organization of work in groups, but they are the most effective for the simultaneous inclusion of all students in active teaching process during discussion of debatable issues.

Properly organized scenario of practical lesson with using of method of the cooperative learning includes three obligatory stages: preparatory, basic and final.

At the preparatory stage, the teacher helps to form small groups of students and he presents for each group a complex of task that consists of untypical tasks and practical skills.

During the main stage of lesson the students of each group develop own plan of resolving of clinical problem and integrate it into an interdisciplinary context. Among the students of all groups, the cooperation, collaboration, communication are established. Students report to the teacher the optimal way and final decision of solving tasks, problem situations and research results, they demonstrate practical skills.

At the final stage the teacher estimates the results of creative work of each group and makes individual and differentiated estimation for each student according to criteria.

Level of professional skills and theoretical knowledge, clinical thinking, ability to interact in a group, individual work (student's activity during work in a group) are evaluated by teacher. Also the ability to lead a discussion and unconventionally resolve the problem, to make decisions, ability to present the results and use medical terminology are very important for the future doctor.

Conclusion. Using of the technology of cooperative learning promotes the development of professional abilities, formation of flexible and creative thinking, generation of practical skills, leadership and personal qualities of specialist.

Key words: interactive technology, cooperative teaching, therapeutic dentistry.

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REFLECTIVE APPROACH IN MODULE EDUCATION OF SURGERY OF MEDICAL UNIVERSITIES' STUDENTS

The article is devoted to the subsequent resolving of the problem of improvement progressive awareness and forming of competitions in surgery in further doctor. Authors propose the decision by the activity module education applying using the technology of a reflective approach in teaching of surgical disciplines. This approach rationalizes using of the educational resources in a credit-transfer module system of organization of educational process, especially during the self-educational students' work controlled by a teacher.

The mechanism of applying the reflective approach in teaching surgery was proposed based on the literature review related with the problem of a role and popularity of the reflection in educational and cognitive process. It is directed on the self-realization of students during a studying the surgery.

The basic conceptual ideas of the reflective approach are systemized. Specific demands for organization of the activity module teaching are done. The necessity of updating methodical recommendations for teachers and students based on aims of the reflective activity of students during studying the surgery is underlined.

Conclusion. The active learning module allows you to efficiently use the reserves of the learning process and students who take part in it, in a credit-modular system of educational process. In our view, a necessary revision of guidance for teachers with the goals reflective of students in the study of surgical disciplines.

Key words: reflective approach, module teaching, surgery.

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INTEGRAL EVALUATION OF ULTRASOUND EXAMINATION IN DIAGNOSIS AND SURGICAL TREATMENT OF VENTRAL HERNIAS

Introduction. Ventral hernias are diagnosed in 6-8% of adults, large and huge hernias occur in 3-15% of a hernia carriers. More than 20 millions of patients each year are operated because of hernia, but reoccur in 15-35%. This makes the problem to be actual.

The purpose of investigation is to improve diagnosis to choose adequate hernioplasty method and postoperative care in patients with ventral hernias by ultrasound examination to improve rehabilitation in this group of patients.

Materials and methods. Ultrasound examination in 41 patients with ventral hernia was done. There were 16 (39,0%) mails and 25 (61,0%) femails in age from 32 till 67

years old. Duration of hernia carrying was from 1 to 12 years. By EHS classification (2009) mild hernias were diagnosed in 6 (14,6%) patients, moderate – in 12 (29,3%) and large – in 23 (56,1%) patients. Ultrasound examination was done as preoperatively, so postoperatively on 3,5,7 days, later if required.

Results. Ultrasound examination is routine and cheap method of surgical patients examination. At ultrasound examination of abdominal wall the condition of musculo-fascial layer, size of hernial gate, configuration and contents of a hernial sac were identified. The main factor making difficulties at description of ultrasound results is an obesity. In 26 (63,4%) obesity of different degree was present. In patients with obesity, incisional, large and huge hernias (by Toskin K.D., Jebrovsviy V.V. classification) abdominal computed tomography is required.

Because of specific flow of a wound process in mesh-hernioplasty region, ultrasound examination in dynamics permits to diagnose limited exudates collection, mesh-prosthesis organization. This serves to remove perforated drainage tube in time, to diagnose, and, if necessary, remove by puncture limited exudates collection in latter time. The flow of postoperative period during 1 year was analyzed. Satisfactory results without complications were achieved.

Conclusion. Ultrasound examination in patients with mild and moderate hernias gives surgeon information, required for adequate hernioplasty. In patients with obesity, incisional and especially large and huge ventral hernias, abdominal computed tomography is more informative examination method. In postoperative period, ultrasound examination in dynamics permits to evaluate adequately wound process flow in hernioplasty region and to correct treatment.

Key words: ventral hernia, ultrasound examination, computed tomography, hernioplasty, wound process.

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EVALUATION OF THE PROSPECT OF FOOT SAVING IN CASE OF THE PRE-GANGRENOUS STATE AND GANGRENE IN TOES

Introduction. Quite often when a patient suffers from critical lower limb ischemia pharmacotherapy is ineffective, there are no necrotic changes on the foot or they affect only toes, conditions for reparative operation are unsatisfactory. In case of occlusive diseases of the lower limb arteries and especially in case of the diabetic angiopathy the collateral circulation plays a key role. The research *objective* is to determine the prospect of foot saving in case of the pre-gangrenous states and gangrene in toes by evaluation of the collateral circulation.

Materials and methods. 113 patients with critical chronic lower limb ischemia were examined. The **foot** state was evaluated by clinical manifestations, reactive hyperemia test, results of the laser photoplethysmography, experimental femoral and gluteal nerve block and forced intra-arterial injection.

Results. In all the cases the collateral blood flow turned out to be decompensated. Incipient decompensation was diagnosed in 29 patients. A reparative operation (7 patients) saved the foot. Vascular therapy, femoral and gluteal nerve blocks and forced intra-arterial injection when there were no conditions for a reparative operation in 22 patients helped to save the foot in 19 cases. Developed decompensation was diagnosed in 41 patients. In 6 of them reparative operation provided foot saving, in 5 patients — during over 2 years. Vascular therapy, blocks and forced intra-arterial injection applied to 35 patients contributed to foot saving of 23 patients. Irreversible decompensation of the collateral circulation was diagnosed in 43 patients. A reparative operation of 8 patients did not provide foot saving. Vascular therapy, blocks and forced intra-arterial injection applied to 35 patients provided temporary saving of the foot support function only in 11 cases. 32 patients had to undergo high-level amputation.

So, reparative operation is indicated in case of initial and developed decompensation. If there are no anatomic conditions indirect revascularization is recommended. If it is ineffective in patients with developed decompensation amputation is indicated. Irreversible decompensation - indication to amputation at the level of the compensated collateral circulation.

Conclusions. Clinical symptoms (pain, hypoxic and necrotic changes), reactive hyperemia test, laser photoplethysmography, experimental blocks create a self-sufficient complex that allows to evaluate the velocity, pressure, resistance and pulsing of the blood flow and state of collaterals and to determine the decompensation degree of the collateral circulation. Incipient decompensation of the collateral circulation allows to save the foot in 89,7% of cases. In case of developed decompensation the foot support function can be saved in 68,3% of patients. Reparative operations show the best results (83,3%). Irreversible decompensation makes foot saving prospectless.

Key words: diabetic foot, occlusive diseases of the lower limb arteries, collateral circulation, examination.

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CASE-STUDY METHOD FOR TEACHING GENERAL SURGERY

The teaching of general surgery, as well as other applied health sciences, is accompanied by a number of difficulties. This is due to the occurrence of health services in the current legal framework that does not allow students to work off skills on real patients. In such circumstances, students do not get necessary knowledge and skills in general surgery during the period of study in health profile high school.

The increasing requirements for professional skills of specialists dictates the need to improve teaching, the use of methods targeted not only to transfer knowledge but to create the conditions for creative activity of students.

Objective - based on the application of new technologies to improve educational level of students in general surgery.

The case-study method is a tool that allows to apply the theoretical knowledge to solve practical problems. The method facilitates the development of students' independent thinking and ability to consider alternative views, express their arguments. Using this method students have the opportunity to demonstrate and improve the analytical and evaluative skills, learn to work as a team, find the most efficient solution of the problem.

Work on case includes: analysis of the specific situation of a particular scenario, which includes independent work, "brainstorming" in networks of small groups, public performance of the presentation and defense of the proposed solution, quiz of participants in terms of knowledge that are investigated on the case facts. Work on case is divided into three main stages: independent work at home, work in the classroom and the final stage after exercise.

Phase I – the precompiled case studies the teacher gives the students in advance, but not later than the day before classes. Students examine their own case, pick up additional information and literature for its solution.

The second stage - lessons begin with the monitoring of students' knowledge, clarifying the central problem to be solved. Clinical group of students is divided into small working groups receiving different situations to solve the case. The teacher monitors the work of small groups, helps but avoids direct consultation. Students may use supporting literature, textbooks, reference books. Each small group chooses the "speaker", who expresses the opinion of the group at the stage of making a presentation. During the discussion questions to the speaker, performances and completion of group members are possible, the teacher monitors the progress of the debate and by the way of voting a joint resolution of the problem situation is selected.

In the third stage - summing up, the teacher informs about solving problems in real life or ground his own version and always makes public the best results, evaluates the work of each group and each student.

Conclusion. Application of case-study method in teaching general surgery, on the one hand, stimulates the individual activity of students, creates a positive motivation to learn, reduces the "passive" and diffident students, provides high performance of training and development of future professionals, creates certain personal qualities and competencies, and, on the other hand, gives the teacher the opportunity to self-improvement, think differently and act and update his own creativity.

Key words: general surgery, the method of case-study, cases.

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FEATURES OF GENERAL SURGERY TEACHING FOR INTERNATIONAL FACULTY ENGLISH STUDENTS

Nowadays, Universities are in a state of insufficient funding. And this why the administration is trying to increase the number of foreign students. This concerns, including students enrolled in English.

Goal: To conduct an analysis of the educational process at the Department of General Surgery at students with English language learning. To define a set of measures to optimize the process of teaching.

The advantages of teaching the English language are: to increase the attractiveness of the university and its competitiveness in the market of medical education; expansion of the list of countries wishing to train their professionals at our university;

increase in the number of foreign students, and accordingly receipt of additional funds to the university, which can be spent on its development in such difficult economic times. Another important advantage can be considered the inevitable necessity of teachers to improve their English language skills that will help them to continue to facilitate the study of foreign literature in the specialty.

One of the major problems is a critical shortage of textbook and materials majoring in English. In our opinion, the way out of this situation may be writing, as they say, "from scratch", textbooks for students studying basic function, to include them as basic knowledge on the subject and the world's major development and techniques applied in different countries. This process is not quick. Therefore, a partial solution to this problem may be more active use of the lecture course or change the format of lectures on the more affordable, clear and simple in presentation and understanding. English-speaking students in order to facilitate the process of understanding and assimilation of information, in our opinion, just be sure to use when reading lectures multimedia presentations.

The second major issue of teaching English – insufficient possession of teachers and students. On English proficiency affect university teacher can and should. But on the level of English proficiency of students, we can not influence. They learn it at home and for admission to our university are only interview, sometimes quite formal. In our opinion the solution of this problem may be tightening the requirements for admission to the student and the imposition of restrictions on the admission of students and foreigners, as a result, competition for admission. All this should improve the "quality" of students enrolled: significantly reduce the number of students with low English proficiency.

And the third biggest challenge of training a medical student in the English language is that it can not directly communicate with patients directly, without an interpreter. It is therefore necessary is to consider a parallel study in 1-2 years Russian language and partial or full transition to teaching in Russian on 3 course on clinical departments.

Conclusion. Foreign students teaching in English can improve the attractiveness and competitiveness of the medical school, could raise the staff level of qualification of teaching, partially solve the problems with financing in such a difficult economic situation. However, the introduction of English education is impossible without difficulties: lack of specialized textbooks and manuals in English, lack of language proficiency of students and the inability to complete students in dependent work with patients due to the language barrier. Our proposed measure allow to optimize the process of teaching English-speaking students and several neutralize these difficulties.

Key words: foreign students, general surgery, English.

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**CREATION AND APPLICATION OF LAPAROSCOPIC TRAINING
SIMULATOR FOR IMPROVEMENT OF PRACTICAL SKILLS IN
SURGERY**

Introduction. The question of mastering surgery practical skills for young surgeons is still actual. Numerous surgical manipulations are not possible to train because of numerous reasons, such as patient risk, expensive equipment etc. Modern medical tendencies provide creation of medical simulators (virtual simulators, dummies, training apparatus). The aim of study was to create laparoscopic simulator which gives a possibility to get systematic train laparoscopic practical skills for residents and for young surgeons.

Materials and methods. We have created laparoscopic simulator in few steps. First we have created the basis on apparatus, using wooden materials, which had prismatic

shape and imitated back abdominal wall. The second step was creation of the torso of front abdominal wall, which was done with the help of standard dummy for clothes. The dummy was cut in frontal direction and joined with the basis on apparatus. On the front wall of dummy 9 round openings for laparoscopic port introducing have been cut. These 9 openings were done according to standard laparoscopic approaches. The third step was creation of the model of internal organs to approximate them to real. A model of liver, intestine, kidneys, uretra, uterus has been created.

Results. Creation of laparoscopic simulator gave a possibility for young surgeons to improve their practical skills in laparoscopic surgery. We propose stepped system of preparation: to learn the use of laparoscopic instruments outside the laparoscopic simulator; to learn the use of laparoscopic instruments inside the laparoscopic simulator; to train to put match-sticks into the box by laparoscopic clip; to train to cut a ligature by laparoscopic scissors; to train to knote inside laparoscopic simulator with laparoscopic clip; to train to put in stisches inside laparoscopic simulator with laparoscopic instruments.

Conclusion. The creation of laparoscopic simulator gives a possibility for young surgeons to acquaint them with the essence of less invasive methods, with advantages of endovideosurgery and to train their practical skills in laparoscopic surgery.

Key words: medical simulator, laparoscopic simulator, practical skills.

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**MODIFICATION OF MINOR'S TEST AS ASSESSING TEST THE ABILITY
LOCAL ANTI - INFECTIOUS SKIN RESISTANCE**

Introduction. V.I. Struchkov's statement (1984) that "... surgical infection has again become one of the most difficult, complex and urgent problems of surgery" now, 40 years later, has not lost its urgency. In particular, sweat glands provide removal of bacteria from human skin, forming acid - base balance, counteract exogenous flora due to excretion of biologically active substances etc. Under these circumstances, it is reasonable to assume that the assessment of the functional activity of the sweat glands in certain anatomical areas will help determine the ability of the local anti-infectious resistance, and thus provide some information regarding risk factors for the development of purulent inflammatory diseases of the skin and soft tissues.

However, the range of functional tests designed to study the functional characteristics of sweat glands is rather limited, actually the only test, which according to the literature is often used to evaluate hyperhidrosis is Minor's test – determination of the boundaries of increased sweating areas.

Aim is to increase diagnostic suitability of Minor's test for assessing the functional activity of the sweat glands, as a component of a local anti-infectious resistance through objectification of search parameters.

Materials and methods. The subject of the study were 14 students who voluntarily agreed to participate in the research. Age of the subjects ranged from 19 to 21 years. Men constituted 4 (28.57%), women - 10 (71.43%).

Studies of the functional activity of the sweat glands in axillary area was conducted in all individuals by performing Minor's test. Thus priorly dried axillary area was treated with 2% iodine solution or aqueous solution of iodine. After drying, a thin layer of starch powder was applied with a brush on iodine – stained area. After a 5-minute exposure and spontaneous sweating brown color of the skin gradually acquired a deep blue color. Initial evaluation of the test was performed according to traditional parameters, suggested by Minor: color change in axillary areas from brown to yellow was interpreted as hypohidrosis from brown to dark blue - as hyperhidrosis. Separately area of the changed color was determined - evaluative parameter suggested by Denyshchuk. Color changes in an area of 5 cm² was assessed with 1 point, 5 to 10 cm² - 2 points, over 10cm² - 3 points. Based on the analysis of

logistics technology, stages and the results of Minor's test, variants of technological improvement and additional objective criteria for its evaluation have been elaborated.

Results. At the present stage of science development, range of objective methods of investigation of functions of the sweat glands is fairly limited: most researchers suggested gravimetric analysis and ninhydrin test to be the most accurate methods of examination, however, traditional Minor's test is the most commonly used in clinical practice, which is assessed only according to qualitative parameters (color change).

Minor's test can determine the area and, to some extent, the intensity of hyperhidrosis. Nowadays it is conducted for the purpose of marking the sweat glands with further medical or surgical manipulation in their pathology.

In order to adjust Minor's test to real clinical needs of purulent surgery, we have elaborated technological improvement, such as mandatory consideration of the circumstances, the formation of constant exogenous environment and photo documentation of the results and additional objective criteria for its evaluation.

However, in order to improve the diagnostic applicability of Minor's test for assessing local anti-infectious resistance, we have expanded the range of search options by complementing traditional assessment of axillary area discoloration of with estimation of total damage and accurate calculation of the area color changes with the Adobe ® Photoshop ® CS3 Extended, Version 10.0 (© 1997-2007 Adobe Systems Inc.).

In particular, the totality of the lesions included stratification of changes into two types: " total damage" - a complete monotonous color of the axillary area; " Mosaic destruction" - uneven discoloration with areas of increased color intensity in some groups of sweat glands.

Conclusion. Minor's test enables to estimate the functional activity of the sweat glands of different anatomical areas as part of a local anti-infectious defense mechanism in the body. Introducing the pretest assessment of factors affecting the spontaneous sweating, photo documentation of Minor's test results and its assessment according to the exact criteria of "color ", " the spread of lesions ", " precision area "

significantly increases the diagnostic value of Minor's test and its applicability for identifying risk factors for purulent inflammatory diseases of the skin and soft tissues.

Key words: hyperhydrosis, Minor's test, purulent disease of skin and soft tissue, local anti-infectious resistance of the skin.

© Bondarev R.V., Orehov A.A.

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FEATURES OF LAPAROSCOPIC ADHESIOLYSIS IN THE LOWER FLORE OF ABDOMEN

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Introduction. Laparoscopic surgery of abdominal adhesive disease has several peculiarities in tactic and technique. The development of new technical approaches in performing laparoscopic adhesiolysis continuing. *Aim:* To optimize the technique of laparoscopic adhesiolysis to reduce trauma interventions for adhesions in the lower part of abdomen.

Material and methods. The analysis of the results of treatment of 28 patients with adhesions in the lower abdomen, which was performed laparoscopic adhesiolysis was performed. Laparoscopic adhesiolysis performed routinely. Indication for laparoscopic adhesiolysis were: painful form of adhesive disease, relapsing course of adhesive intestinal obstruction and in 10 patients after resolution of acute adhesive intestinal obstruction by conservative methods of treatment. The techniques of laparoscopic adhesiolysis in the separation of adhesions between the parietal peritoneum and omentum, visceral adhesions. When separating the gland from the parietal peritoneum, scissors jaws held reciprocating motion in the direction of the parietal peritoneum to the gland, displacing the latter in small portions to

render filmy adhesions to its intersection. In the case of dense adhesions, produced in small quantities take off gland from the parietal peritoneum with its coagulation bipolar clamp. Separation dense adhesions between intestinal loops executed with closed jaws holding scissors longitudinally along the bowel wall, to complete destruction of adhesion and separation intestinal loops.

Results. In the separation of dense adhesions between the parietal peritoneum and omentum, dense adhesions between intestinal loops, proposed methods of laparoscopic adhesiolysis , avoids damage to the parietal peritoneum, perforation of the small intestine wall, perform the conversion and shorten the duration of the operation. In contrast, in patients undergoing laparoscopic adhesiolysis on generally accepted principles of laparoscopic surgery with adhesions in the abdominal cavity was observed in 3 damage peritoneum with its detachment from preperitoneal fat and fiber in the inguinal canal, 2 conversion as a result of dense visceral adhesions.

Conclusion. The proposed method of laparoscopic adhesiolysis allowed to reduce the invasiveness of intervention and shorten the duration of the operation.

Key words: adhesive disease, laparoscopic adhesiolysis, abdominal cavity.

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TECHNICAL FEATURES PERFORMANCE LAPAROSCOPIC APPENDECTOMY

Introduction. The most controversial issues that impede the implementation of laparoscopic appendectomy (LA) in emergency surgery are differences in the

methods of laparoscopic access and processing method of the appendix stump ligature and reliability of the method. The aim of the study was evaluation of various methods of laparoscopic access and processing of the stump of the appendix in the performance of the LA.

Materials and methods. A comprehensive examination and treatment of 96 patients who underwent laparoscopic appendectomy for acute appendicitis . In 47 of these LA was planned as a primary operation and in 49 appendix removal was performed after preliminary diagnostic laparoscopy. The criteria for inclusion of patients in the study were: diagnosed with acute appendicitis, which required LA; patients age 18 to 75 years; unrecompensed absence of cardiopulmonary disease; no history of acute or chronic liver disease. Exclusion criteria were: retroperitonealis and underliver location of appendix, diffuse peritonitis or abdominal sepsis (excluding SIRS), which required holding laparotomy, abdominal sanitation and drainage of two or more counterpuncture; tuberculosis, immunodeficiency, diabetes, Crohn's disease.

Result. All patients LA performed with the use of combined anesthesia. LA performed three trocars accesses. In 31 patients the procedure was introduced trocars Semm. As demonstrated by our observation that access had excellent cosmetic effect, allowed to perform well manipulation pelvic organs, but during surgery instruments often crossed. In addition, there were technical difficulty in the extraction of the appendix removed from the abdominal cavity. In a 25 patients during video-monitored the second and third trocar administered to the method of Fedorov. In our opinion, this was the most suitable access for the removal of catarrhal modified appendix. If necessary, the drainage right iliac area and the pelvic in the case of phlagmonous or gangrenous appendicitis, we have to introduce an additional trocar in the point Lanza or McBurneo.

In 40 patients we used our proposed method of access for LA [Vasylyuk, 2012], which had not deficiencies of the first two methods. In these patients, the first trocar diameter of 6 mm or 10 administered blindly by midline 1-2 cm above the umbilicus. Through it entered the laparoscope and perform the revision of abdomen. After previous visualization of inflammatory appendix to the midline between the navel

and pubes under visual control was administered second trocar 12 mm. Third trocar 5 mm in diameter were injected at the point McBurneo.

During performing LA used different methods processing of the appendix stump. In 17 patients (17.71%), the appendix cut off linear stapler ENDO GIA™ 35 or 45 mm. Despite the technical simplicity and high reliability, this method was expensive. In 22 (22.92%) cases impose three endoloops. In the greatest number of patients (59.38%) spent clipping process. The method of clipping base of the appendix in LA we felt quite safe and inexpensive method processing of the appendix stump. In the case when the base of the appendix was wide, or with severe inflammatory infiltration, imposing 12 mm clips, which permitting securely sealed tissue the line of cut-off hollow organ.

To escape the appendix of the abdominal cavity in case of access Semm in 26 patients using 10 mm available in left iliac region, and 5-expanded aperture in the right iliac region. All patients who performed access Fedorov, the appendix was removed through trocar set by the median line. The container used in rare cases. For drainage of the abdominal cavity at the point Mc BURNEO had to install additional 5 mm trocar through which summed tube drainage. In 40 patients who used our proposed method of introducing trocar, appendix was removed through trocar placed on the midline of the bladder without the use of container. Through trocar install in the right iliac region summed drainage to pelvis.

Conclusion. Method of access in the performance of LA by Vasylyuk which comprises introduction the first trocar site paraumbilical, second - midway between the navel and pubis, third - at the point McBurneo, allows better visualization of surgical area, conduct evacuation of the appendix from the abdominal cavity and drainage of pelvic achieve excellent cosmetic effect. Use clipping for the treatment of the stump of the appendix allows for optimal timing in terms and prevent intraoperative autoamputation of appendix, and the use of linear endostepler in acute catarrhal appendicitis reduce the time of laparoscopic appendectomy to 27.13 ± 4.91 minutes (median 27.0), endoloops application extends time of operation to 36.50 ± 5.81 minutes (median 36.0), in acute catarrhal appendicitis, to 49.13 ± 8.39

minutes (median 50.5), in destructive forms of appendicitis - to 53.13±4.45 minutes (median 53.5), and can not hermetic appendix stump in severe infiltration of its base and the dome of the cecum.

Key words: acute appendicitis, laparoscopic appendectomy, complications.

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**IMPROVING EFFICIENCY LEARNING AT THE DEPARTMENT OF
GENERAL SURGERY UNDER CONDITIONS OF THE CREDIT-MODULAR
SYSTEM**

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The article is devoted to organizational issues of teaching at General Surgery Department in conditions of credit-unit system, which introduce new forms of dialogue and communication between student and instructor, with the application of new computer technologies, and also traditional knowledge sources - methodological developments of lectures and practical trainings, tests to practical trainings and algorithms of practical skills. For the purpose of the increase of education effectiveness special consideration is given to independent work of students, which develops their searching and navigation thinking on the basis of available data bank both at the department and beyond it. There generalized practical experience of work with students at seminars and practical trainings, succession of presentation of theoretics, work at the patient's side and reinforcement of practical skills in conditions of dressing wards under the guidance of instructor and nurse. Significant consideration is given to the ability of building up dialogue with a patient during

supervision, with a glance to principles of deontology, which should be reinforced by the instructor. Authors give generalized characteristics to peculiarities of conduction of seminars and practical trainings in conditions of credit-unit system. The peculiarity of the given pattern is the succession of presentation and learning of material by basic issues of education program. Openness for dialogue between instructor and student, availability of student's self-organization on the basis of new informational computer technologies. It can be concluded, that in conditions of credit-unit system the intensity of education and learning of material depends on both optimization of teaching process and corresponding material and technical base.

Conclusion. Improving the effectiveness of training at the department of general surgery in a credit-modular system consists of a series of mandatory steps that caused the curriculum. Using computer technology to study issues of general surgery increases the intensity of self-study and allows more time to spend at the bedside. In the future, to overcome difficulties in the educational process by credit-module system will need to optimize the learning process, reduce the number of students per teacher, equip the Department of appropriate equipment and scientific instruments applied.

Key words: credit-module education system, general surgery.

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**OPTIMIZATION OF ENDOSCOPIC INTERVENTIONS IN CASE OF
“PROBLEMATIC” LOCALIZATION OF THE OBJECT OF
MANIPULATION**

Introduction. The complexity of the performing of the endoscopic manipulations is connected with two factors. They are technical and anatomical ones. Technical factors include opportunity of the endoscope and futures of manipulation. The anatomical factors include so calling “difficult” localization of the object of manipulation. The localization in subcardial part of stomach, in duodenal bulb as well as upper third of esophagus is considered “difficult”. “Difficult” is because of limited space of these organs.

The duodenoscope, side view endoscope or controlled tools are needed for endoscopic manipulations performing on “problematic” objects. These options make this manipulation more expensive.

The aim of our study was to optimize endoscopic interventions in case of “problematic” localization of the object of manipulation. The way to reach the aim was to develop the original distal cap.

Materials and methods. The aim is reached by the device (Application for receiving of the Patent of Ukraine for the invention a 2014 04830). This device has a tubular body with longitudinal indirect channel inside. The body should be connected to the distal end of the endoscope by its one end in order to enter the device’s channel matches the exit of the endoscope’s instrumental channel. In this case, the channel of device is the continuation of the endoscope’s instrumental channel. The plane of the distal end is not math plane of the exit of the endoscope’s instrumental channel. The endoscopes axis and tangent to the circle formed partly by channel of device or distal segment of this device makes angle in point of crossing of the axis of device’s channel with the plane of the distal part of the device’s channel. The angle is not bigger than half of inspection angle of endoscope.

The primary estimation of the efficiency of the using of distal cap was performed on the plastic tubes ex vivo. The diameter of these tubes was from 1.5 to 3.5 cm with interval 0.5 cm. Fiber-optic esophagogastroduodenoscope Olympus was used for this purpose. At the same time the opportunity to reach angle 45°–60° by biopsy forceps was estimated with and without using of the distal cap.

Results. In case of standard method, e.g. without distal cap the angle needed for manipulation was not reached in the lumen of the tubes 1.5, 2.0 and 2.5 cm.

When manipulation was performing with distal cap the object of manipulation was reached in the same tubes in all cases.

The object of manipulation was reached easily by biopsy forceps with or without distal cap in tubes 3.0 and 3.5 cm.

Conclusion. In study ex vivo the using of the developed distal cap it was demonstrated that one can reach “problematic” object for manipulation easily than in case of standard method. This is achieved by passive incurvating of the endoscopic tool to the side of manipulation object. The next part of study, i.e. its clinical part is planned to be conducted after the patent of Ukraine for the invention receiving and after the branch’s implementation.

Key words: upper gastrointestinal endoscopy, distal cap, endoscopic interventions, “problematic” localization.

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CHOICE OF TECHNIQUE FOR SURGICAL CORRECTION OF OBSTRUCTIVE JAUNDICE COMPLICATED WITH CHOLANGITIS

Introduction. The number of patients diagnosed with obstructive jaundice caused by choledicholithiasis which are in need of surgery has been growing by now [Kondratenko et al., 2005]. *The aim* of research – to improve the outcomes of therapy for cholangitis-complicated choledocholithiasis.

Materials and methods. The results of endoscopic therapy of 103 patients with cholangitis-complicated obstructive jaundice was undertaken. The respondents

included 30 males (29.1%) and 73 females (70.9%). The age ranges of these patients were as follows: 21 – 30 years of age – 6 patients (5.8%); 31 – 40 years old people were 5 (4.9%), those aged 41-50 were 17 (16.5%), patients aged between 61 and 70 were 28 (27.1%), 71 – 80-aged were 22 (21.4%), 81 years old and more were 5 (4.9%). The number of productive-age patients (under 65 years old) were 61 (59.2%). The clinical laboratory tests revealed a higher rate of total bilirubin from 44 $\mu\text{mol/l}$ to 384.6 $\mu\text{mol/l}$; higher activity level in transaminases (aspartate aminotransferase, alanine aminotransferase) to 1.36 $\mu\text{mol/hour/l}$ and 5.2 $\mu\text{mol/hour/l}$ correspondingly, leucocytosis level growth to $20.8 \times 10^9/l$, higher leucocytal intoxication index up to 4.5 – 4.8, higher levels of urea to 14.5 mmol/l and creatinine to 0.189 mmol/l . Leucogram showed signs of massive inflammatory response.

After previous non-surgical treatment which in urgent cases implied pre-surgery treatment all the 103 patients underwent endoscopic papillosphincterotomy (EPST) within the shortest possible time from intake of in-patients (1 - 4 days).

Results. Depending on the choice of surgery at the second stage all the patient were grouped as follows: EPST with no further surgery – 42 patients (40.8%). In this group 22 patients of elderly and old age refused further surgery after elimination of jaundice. 20 patients from the same group had no invariable indications to the second stage of surgery (in 87 cases the obstructive jaundice was caused by papillitis, in 9 patients jaundice was caused by major duodenal papilla stenosis, in 3 cases anesthesiology risks were higher than surgery risks). Two-stage surgery – EPST with follow-up laparoscopic cholecystectomy (LCE) was performed in 29 (28.2%) patients. For 32 people (31.0%) EPST proved noneffective and these patients underwent cholecystectomy by laparotomy approach with choledocholithotomy with choledochus drain in 23 patients and choledochoduodenoanastomosis. In 1 (0.9%) cholangitis patient in emergency condition after failed EPST the decision was made to apply coupling cholecystostomy in order to decompress the biliary tree and resolve cholaemia.

The complications which developed after EPST were: pancreatitis which called for targeted non-operative measures in 3 patients (2.9%), there were 2 cases (1.9%) of

papillotomy wound bleeding which needed non-operative intensive-care treatment. One patient (0.9%) of old age died.

The patient who underwent two-stage surgery in the follow-up period had such complications as: acute pancreatitis – 3 cases (2.9%), post-operative wound infection – 2 cases (1.9%), subhepatic abscess – 1 case (0.9%), pneumonia – 2 cases (0.9%). There were 2 deaths (1.9%) of old-aged patients due to progressive intoxication and multiple organ failure.

Conclusion. Endoscopic papillosphincterotomy with lithoextraction within 24-48 hours from intake into hospital is the most reasonable technique for cholangitis-complicated choledocholithiasis therapy. For better results in such patients' treatment the early post-surgery follow-up should include the prevention of acute pancreatitis and inflammatory complications with the best possible compensation of vital functions of the organism.

Key words: cholelithiasis, cholangitis, endoscopic papillosphincterotomy.

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NEW LIFTING SYSTEM IN LAPAROSCOPIC SURGERY OF ACUTE CHOLECYSTITIS IN PATIENTS WITH HIGH INDEX OF POLYMORBIDITY

Introduction. Laparolifting usage in laparoscopic surgery of acute cholecystitis excludes the development of carboxyperitoneum negative effects otitsatelnih effects in patients with the high index of polymorbidity. However, none of the existing lifting technologies is not fully satisfied the surgeons. The new lifting system was developed, patented and successfully put into practice (patent for the invention of

Ukraine № 101921 from 13.05.2013 - laparolifting device for laparoscopic surgery performing, Zaporozhchenko B.S., Kolodiy V.V.) by the staff of the department of surgery № 2. In our opinion, it has the advantages over previously proposed lifting technologies. The purpose of this work is to optimize the laparoscopic surgical approach in patients with acute calculous cholecystitis on a background of increased operational risk using the new lift technology.

Materials and methods. In the department from 2009 to 2014 years 81 laparoscopic cholecystectomies in elder and senile patients with comorbidities were performed. 43 (53.1 %) of patients in the control group were underwent to laparoscopic cholecystectomy with low pressure in the abdomen 6-7 mm Hg, in 38 (46.9 %) of them - laparoscopic cholecystectomy according to the author's method. To assess the carboxyperitoneum effect on systemic hemodynamics in intra-and postoperative period in patients of the both groups the following indicators were compared: blood pressure, pulse rate, the index of total peripheral vascular resistance and cardiac index. In order to facilitate The evaluation of the patient's condition gravity and outcomes predict onwas performed according to SAPS II.

Results. SAPS II Indicators of the patients in the control group equaled $30,7 \pm 1,2$ points and putative risk of death - $9,3 +0,8\%$ ($p <0,05$), the main group $31,5 \pm 1,4$ and $11,4 +0,6\%$ ($p <0,05$), correspondingly. In the study group with compensated initial parameters, we observed a stable hemodynamic profile with small fluctuations. The control parameters were observed with considerable shifts up to critical. Studied hemodynamic parameters in patients after lifting procedures were stabilized and approached baseline levels actually in the first few hours after surgery; in the group with the carboxyperitoneum implementation - during the first day. The intensity of pain according to visual analogue scale during the first, the second day in the study group was significantly lower. In the control group complications observed in 5 (11.6 %) of patients; in the study – in 3 (7.9%). Relapse rate of comorbidities in the study group - 5.3%, in the control group - 14%. In the control group mortality was 4.7 % (2) and in the test group 2.6% (1). Length of hospital stay after laparoscopic

cholecystectomy in terms of lifting $8,1 \pm 1,2$ bed-days in the control group $11,7 \pm 1,3$ bed-days ($p < 0,05$).

Conclusions. Using the author's lifting technology allows to expand indications for laparoscopic cholecystectomy in patients with a high index of polymorbidity. When lifting laparoscopic cholecystectomies number and severity of postoperative complications related exacerbations of chronic diseases, the intensity of postoperative pain, length of hospital staying were significantly lower in comparison with classical laparoscopic surgery, which allows considering gasless laparolifting method of choice of surgical intervention in patients with high perioperative risk.

Key words: laparolifting, acute cholecystitis, laparoscopic cholecystectomy, lifting laparoscopy.

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**TEACHING GENERAL SURGERY FOR ENGLISH-SPEAKING STUDENTS,
UNDER CONDITIONS THE CREDIT-MODULAR SYSTEM**

In this article there considered problems of teaching general surgery in conditions of credit-unit system, which introduce new forms of dialogue and communication between student and instructor, with the application of new computer technologies and also traditional knowledge sources – methodological developments of lectures and practical trainings, tests to practical trainings and algorithms of practical skills. For the purpose of the increase of education effectiveness special consideration is given to independent work of students, which requires the development of their

searching and navigation thinking on the basis of ability of independent usage of available informational materials. There conducted analysis of work with students at seminars and practical trainings, succession of presentation of theoretics, work at the patient's side and reinforcement of practical skills in conditions of dressing wards under the guidance of instructor and nurse. High, constantly improved English proficiency of the instructor is the absolute guarantee of successful work.

Openness for dialogue between instructor and student, availability of student's self-organization on the basis of new informational computer technologies is the main advantage of the pattern. It can be concluded, that following the pattern of teaching English-speaking students in conditions of credit-unit system facilitates the integration of national system of education into European educational system.

Conclusion. Increasing and improving the training of teachers who are fluent in English, is the key to success in teaching general surgery English-speaking students in a credit-module system. The introduction of the learning process and independent work of students of new technologies and new forms of organization of educational process promotes the integration of National Education in the European educational space.

Key words: general surgery, credit-modular system.

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**THE EFFICIENCY OF OPEN AND CLOSED METHODS OF REPEATED
SANITATION, THE ABDOMINAL CAVITY IN PATIENTS WITH
PURULENT PERITONITIS**

Introduction. *The Purpose* of work is to improve the results of surgical treatment of patients with purulent peritonitis by development and introduction in practice of the optimized code of holiatry in a perioperative period on the basis of optimum tactical decisions.

Materials and methods. We reviewed and analyzed the results of treatment 102 patients with general purulent peritonitis, which was managed at an emergency hospital in Vinnytsia. The complex of medical measures included for itself intensive preoperative preparation, leadthrough of primary operative interference, with liquidation of reason of peritonitis, treatment of abdominal region by solutions of antiseptics and draining of abdominal region on the accepted layout of drainages chart. In a postoperative period the patients rational antibacterial therapy was conducted by the complex of antibiotics of wide spectrum, correction water-electrolyte exchange, liquidation of syndromes of intraabdominal hypertension, system inflammation, endogenous intoxication, and organ dysfunction.

Results. We considered staging of peritonitis and a choice of surgery, depending on the stage of peritonitis, «closed» method of repeated sanitation of the abdominal cavity of the patients with toxic stage of peritonitis showed high efficiency, as well as the low efficiency of patients with end-stage peritonitis.

Conclusions. The use of the "closed" methodologies of repeated sanaciy in the group of patients with the toxic phase of peritonitis allows adequately and in a sufficient volume to liquidate the remaining phenomena of regional purulent peritonitis. In the terminal phase of peritonitis of the use of the "closed" methods of sanaciy uneffective and advantage it follows to give to the traditional open methods of relaparotomic.

Key words: general peritonitis, relaparotomy.

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STUDY OF ANTIMICROBIAL PROPERTIES OF SUTURE MATERIALS TREATED WITH SOLUTIONS DECAMETOXINE AND DIMEXIDE

Introduction. The presence of suture material in the wound increases the risk of inflammatory wound complications. It is known that the critical period for the adhesion and proliferation of microorganisms is the first 3-6 hours after the start of the operation (A.A.Shalimov, 2001). The aim of the research was to develop a technology of surgical suture materials antimicrobial properties to prevent surgical site infection (SSI).

Materials and methods. To determine the antimicrobial activity of soft synthetic suture materials impregnated with decametoxine and dimexide solutions in the operating room conditions, conducted microbiological studies of museum and clinical strains of the most common causative agents of inflammatory complications *S.aureus*, *St.epidermidis*, *E.coli*, *P.aeruginosa*. We used surgical silk, monofilament polyamide and braided polyamide. In the first series of experiments selection the optimal permeation antiseptic solutions was carried, determining best type of suture material. In the second series of experiments was determined optimal for achieving the goal composition of an antiseptic solutions. In the third series of studies was selected optimum ratio of components of solutions.

Results. In the study yarns impregnated with a solution of 0.02% decametoxine, formed pronounced zone of stunted growth of staphylococci largest zone of growth inhibition was 8.4 ± 0.8 mm and 8.2 ± 0.7 mm monofilament suture hardly acquired activity against *S.aureus* (zone delay growth – 2.2 ± 0.5 mm). Processing with Dimexidum not giving them antimicrobial properties. Around sample of silk threads, soaked dekasanom zone width delay bacterial growth was equal 8.4 ± 0.8 mm round sample of Group 1 strands - 8.2 ± 0.8 . Zone stunted growth of staphylococci, not coagulate plazmunavkolo polifilament polyamide had a width of 10.8 ± 0.9 mm, round silk – 12.2 ± 1.1 mm. Values of growth zones around samples of polyamide

yarns for intestinal bacilli and *P.aeruginosa* were $6,4 \pm 0,6$ mm and $4,2 \pm 0,5$ mm respectively

Conclusion. For impregnation should use antiseptic composition comprising 2 parts of a solution of dimethyl sulfoxide and 0.02% 8 parts decametoxine . Processed easy and affordable way proposed surgical suture materials effectively inhibit the growth of museums and multiresistant to antibiotics of clinical strains of bacteria, microorganisms that are most often the cause of surgical site infection (SSI). An important advantage of treated sutures over standard antimicrobial surgical thread "Vickril plus" for inhibition of growth *P.aeruginosa*.

Key words: suture materials dimexide, decametoxin, antimicrobial activity.

Social medicine, health care organization

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EVALUATION OF THE EFFECTIVENESS OF HOMEOPATHY ON THE RESULTS OF A RETROSPECTIVE ANALYSIS OF OUTPATIENT CARDS PATIENTS HOMEOPATHIC CENTER NAMED DEMIAN POPOV (KYIV)

Introduction. Today, homeopathy is one of the most common methods of alternative medicine in the world and the most common method of alternative medicine in Europe. The World Health Organization (WHO) pays great attention to this method because of its potential to enhance health and optimize health care. The *aim* of this work was to study the effectiveness of the method of classical homeopathy within Prophylaxis by retrospective analysis.

Materials and methods. The article provides the results of retrospective analysis of

Demian Popov Homeopathic Center (Kyiv) outpatient medical records. In individual data cards made from outpatients patients treated by classical homeopathic homeopathy in the center. The study processed 244 individual maps patients used a statistical method.

Results. The analysis of the data substantiates high efficacy of classical homeopathy for treatment of adult and pediatric patients with chronic diseases. It was also found that the majority of patients ($96,3 \pm 1,2\%$) approached the Centre on chronic diseases ($p < 0.001$) and only $3,7 \pm 1,2\%$ - on acute diseases. The study found that doctors who work in homeopathic Center. Demian Popov, recommend their patients exclusively homeopathic medicines domestic production and during treatment, mainly administered 2 one-component homeopathic medicinal products ($53,3 \pm 3,2\%$ cases, $p < 0,001$). However, almost every third patient during treatment was for only one-component homeopathic drug ($p < 0.001$) and $15,6 \pm 2,3\%$ of patients received during the course of homeopathic treatment 3 one-component homeopathic medicines ($p < 0.001$). $0,8 \pm 0,6\%$ of patients received during the course of treatment prescribed by a doctor 4 one-component homeopathic medicines ($p < 0.001$).

Conclusion. During retrospective analysis of patients homeopathic outpatients center named Damian Popov (m. Kyiv) found that often seek homeopathic care for women, including persons aged 50-55 years who suffer from chronic diseases polimorbidnu ($96,3 \pm 1,2\%$). Among patients Center significant stake with children. The vast majority of adults are highly educated people. It was established that the purpose of homeopathic medicines classical method in most cases ($95,9 \pm 1,3\%$) makes it possible to significantly improve the quality of life of patients. These data confirm the fact that the integration method of homeopathy in the health care system can be quite powerful potential optimization of health care.

Key words: classical homeopathy, homeopathic medicines.

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**CERTIFICATION OF TRAINERS AND SPECIALIST IN PHYSICAL CULTURE AND SPORTS REHABILITATION OF DISABLED PEOPLE:
LEGAL PRINCIPLES**

Introduction. A modern state is characterized by a deep concern for socialization and all-round rehabilitation of the disabled. This problem is especially important for Ukraine since the number of this population group in this country is constantly growing. An important way of socialization and rehabilitation of the disabled is their involvement to different recreation activities and sports.

Trainers and specialists in physical culture and sports rehabilitation who participate in recreation, rehabilitation and sports activities for the disabled are supposed to play a special role in this process since the level of their professional knowledge, dexterities and skills determines the scale of involvement of people with disabilities into sports and physical culture activities.

The aim of this work is to analyze the realization of the legal principles in the rules of the Procedure of certification of trainers and experts in physical training and sports rehabilitation who participate in recreation, rehabilitation and sports activities for the disabled (further – the Procedure).

Materials and methods. The study of the issue required structural – logical analysis of the Procedure and application of general philosophical and theoretical law methods of cognition.

Results. Content analysis of the Procedure as a sub-legal act in the field of selecting and encouraging (stimulating) trainers and experts in physical training and sports rehabilitation who participate in recreation, rehabilitation and sports activities for the

disabled (further – the experts) shows that the certification of the above-mentioned experts is built on the legal principles which are the embodiment of a basic principle of legitimacy. Such principles are also principles of collegiality, systematicity, integrity of criteria and conditions, providing objective attitude to the trainers and experts.

Conclusions. The legal principles fixed in the Procedure (the principles of collegiality, systematicity, integrity of criteria and conditions, providing objective attitude to the trainers and experts) create a legal regime which stimulates the increase of the professional level of the trainers and experts, which in turn, will contribute to the processes of rehabilitation of people with disabilities. Meaning to improve the protection of professional and human rights of the trainers and experts who were on pregnancy, childbirth and babycare leave, taking into consideration the psychological and pedagogic peculiarities of their work and the specific character of the social group they work with, we consider it reasonable to conduct their certification not earlier than in two years after the renew working and not in a year as it is prescribed in the Procedure now. Further developments are to be directed on the study of legal basis of labour remuneration of the trainers and experts, their social protection and pension provision.

Key words: principle, disabled person, certification, trainer, collective responsibility, regularity, legality.

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Introduction. Under this program has been planned to create national and regional centers of gastrointestinal endoscopy, improvement of material and technical basis of endoscopic services, improvement of the legal framework for a clear definition of endoscopic guaranteed benefits and the application of diagnostic and therapeutic procedures that are not included in this list conducting educational distribution in the media and in schools. *The aim* of our study was to analyze the results of the endoscopy department of Vinnytsia Regional Clinical Hospital named after M.I. Pirogov for 2011-2013, to establish trends and perspectives for further development.

Materials and methods. The basis of this study was the summary of the report on the work of endoscopy department Vinnytsia Regional Clinical Hospital named after M.I. Pirogov for 2011-2013.

Working endoscopic instrumentation department presented gastroscope, colonoscope bronchoscopes and Olympus, duodenoskopom Fujinon, GPU Pentax EPM-3300 and Fujinon EPX-2000, and electrocautery device APC Söring ARCO 3000.

The spectrum of endoscopic operations performed by the doctor of endoscopy include: removal of foreign bodies of the esophagus and gastric balloon dilatation narrowing of the esophagus, anastomosis; polypectomy and the resection of the mucosa, sclerotherapy of varicose esophagus and stomach veins; Stop bleeding by applying APC and electrocautery, clipping, injection hemostasis; papilosphincterotomy, balloon dilatation of the papilla, removal of choledochal calculus, biliary contact lithotripsy, biliary retrograde drainage.

Results. During 2011-2013 years the endoscopy department was implemented application APC as a method of stopping gastrointestinal bleeding and surgical pulsed laser endoscopic surgical operations. It has also been introduced into routine training patients to colonoscopy preparations for bowel cleansing MOVYPREP, Fleet phospho-soda, Fleet Ready-to-use enema.

In addition, by physicians of Endoscopy Department regularly conducted health education work in the form of lectures, conversations, writing feature articles in professional journals of Ukraine. Thus, there were conducted 12 lectures and 24

conversations, in 2011, 11 lectures and 28 conversations in 2012 and 12 lectures and 26 conversations in 2013.

Conclusions. Despite the feasibility and high potential prospects absolutely all provisions of the "Draft Concept of the State Program" Endoscopy "for 2011-2015", the lack of funding prevents its full introduction into practice. At the same time, the expansion in recent years, a network of private medical centers that offer a full range of endoscopic studies, although significantly increases the diagnostic and medical aid to the population of the region, but it a little bit reduces the quantitative indicators of endoscopic services state.

Scientific reviews

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PATHOGENETIC FEATURES OF THE HEART FAILURE DEVELOPMENT IN CASE OF STABLE ANGINA WITH COMORBID TYPE 2 DIABETES

Chronic heart failure is a widespread malignant pathological condition which is the most common cause of disability and mortality in patients with cardiovascular diseases. The number of patients suffering from chronic heart failure increases significantly. Thus, about 25% of patients die within the first year after being diagnosed with the heart failure and mortality in the next five years is 40-50% [Hylyarevskyy, 2009]. Type 2 diabetes is one of the major independent and significant risk factors for cardiovascular disease that can determine the prognosis, also for the life of patients related to this category [Obrezan, 2008]. In the pathogenetic basis of the heart failure and diabetes are the same pathophysiological

processes that involve neurohumoral activation, endothelial dysfunction, oxidative stress, activation of anti-inflammatory cytokines (tumor necrosis factor - α). Diabetes accelerates atherogenesis and increases the risk of myocardial infarction and coronary heart disease. The course of the coronary heart disease in patients with diabetes mellitus is characterized by greater severity, which is largely due to morphological changes in the coronary vessels. The autonomic nervous system disorders leading to pathological changes of the heart rate regulation are also important in the pathogenesis of diabetic cardiomyopathy. In most cases, these patients have stable sinus tachycardia, which is apparent even with compensation of carbohydrate metabolism. This leads to the exhaustion of the heart muscle and speeds up the development of the chronic heart failure. For diabetic patients suffering from coronary artery disease the silent myocardial ischemia is typical, its frequency in the patients with diabetes is 3-4 times higher than in patients with the coronary heart disease without diabetes. Silent myocardial ischemia is caused by the autonomic nervous system injury with the development of autonomic neuropathy [Sergienko, 2012], which is a fairly common complication of diabetes. It was also established that the parasympathetic division of the nervous system is damaged before the sympathetic one that perhaps leads to the predominance of the sympathetic vasomotor tone and is manifested by pathological vasoconstriction, which is typical of the patients with diabetes. A significant increase in the pain threshold can be observed, its value is very labile and depends on the complex relationship between β -endorphins, state of the central, peripheral nervous system and pain receptors. Metabolic disorders are accompanied by changes in its energy, the synthesis of nucleic acids and proteins, glycogen metabolism, electrolyte balance, etc. Insulin activates the synthesis of nucleic acids, including RNA and protein, and phospholipid synthesis.

Conclusion. The development of the chronic heart failure in patients with stable angina with comorbid diabetes is based on four main mechanisms: coronary atherosclerosis, diabetic microangiopathy, autonomic cardiac neuropathy, primary cardiomyocyte metabolic disorders. Such combined pathology deepens pathological

changes, complicates the course of each disease thus worsening the prognosis of these patients.

Key words: heart failure, stable angina, diabetes.

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MODERN IMAGINATIONS ABOUT NEUROPHYSIOLOGICAL MECHANISMS OF THE LOCOMOTION ORGANIZATION

Locomotion is a motor activity directed to the body movement in the space. There is a variety of different types of movements in nature, but «stepping» movements allow animals and man to traverse terrains that are inaccessible to wheeled vehicles.

It is known two basic types of motor activity which are essential for realization of movements: the first includes maintenance of posture and equilibrium, and the second – movements proper.

The goal of the postural control consists in maintenance of the human body vertical position, stability and orientation of the body in the environment, as well as in mechanical support of movements.

Postural tone is modulated through the myotatic reflex loops, tonic labyrinth and neck reflexes, lumbar reflexes. It should be noted, that various cortex lesions are accompanied with considerable disorders of posture which is a sign of the cortex mechanisms of the vertical posture program realization.

In man, where the small area of support occurs, control of the gravity center position is carried out due to displacements of the body parts. Information about orientation in relation to the vertical axis comes from vestibular and visual receptors.

Research of the postural compensatory reflexes in reply to oscillation of the supporting base indicates two control levels: strategy and synergy. It was formed the idea about two main «postural strategies» used by human to compensate external perturbations: «hip strategy» and «ankle strategy».

Nervous structures involved to control of the posture and movements are located from the spinal cord to the cortex of large hemispheres. Realization of the locomotor movements is possible with participation of the so-called central pattern generators (CPGs). Namely the spinal level mechanisms determine the main phases of walking: swing of extremity, stance phase, transfer of the body mass center.

They consider that the spinal locomotor mechanism can generate different rhythms which correspond to different speeds of locomotion. It can in a different measure activate the muscles of extremities as a result the stepping intensity will change. In certain conditions the CPGs is able to create the different type of movement due to establishment of different phase correlations between extremities. The human CPGs are thought to be inhibited and commands from the supraspinal structures disinhibit them.

In experiments on decerebrated and intact cats four locomotor areas (specific brainstem areas that control posture and locomotion) were identified. Their electrical or chemical stimulations in intact animals lead to changes of posture and locomotion. They are subthalamic locomotor region of the lateral hypothalamus (SLR), midbrain locomotor region (MLR), ventral part of the caudal tegmental field (VTF) and dorsal part of the caudal tegmental field (DTF) in the pons.

Steering action during locomotion to attend to novel and moving environmental stimuli is controlled by the superior colliculus in the roof of the brainstem (tectospinal tract).

In the locomotion control the supraspinal structures execute such functions: modulation of the CPGs, control of its action intensity, maintenance of equilibrium during locomotion, adaptation of the extremities movements to the external conditions and coordination of locomotions with other motor acts.

The cerebellum influences motoneurons through the vestibulospinal, the rubrospinal, the reticulospinal and corticospinal tracts mediately. The neurons of the dorsal spinocerebellar tract encode the global parameters such as length of extremity and orientation. This information is very useful to plan the changes in rhythms of activity in different descending tracts. The cerebellum function of principle can be synchronization of the muscular activation, accurate tuning of outputs for adaptation of each step cycle. The cerebellar functional output improves inter- and intra-extremity coordination of movements.

The basal ganglia are considered to be the inalienable structures of large, accurate control loops which include the cerebral cortex and thalamus. They participate in the wide circle of various functions, including planning, initiating, realization and completion of the motor programs; motor training. Both the cerebellum and basal ganglia play an important role in synchronization of the muscular activation, but the basal ganglia act in more prolonged time scale.

The cerebral cortex is involved in formation of more specific changes, such as step-by-step adaptive changes to reach adaptive behaviour, and also for realization of general or global changes. The prefrontal cortex plays the special role in initiation and maintenance of motor responses. The cerebral cortex and basal ganglia removing can both activate and disinhibit such locomotor centers as MLR and SLR.

The corticospinal tract is actively involved in visually mediated obstacle avoidance, foot placement and accommodating different support surfaces in the travel path during locomotion. Animals with lesions of the corticospinal tract are able to travel over smooth surfaces at different speeds quite well. When the animal is required to go over barriers in the travel path or is constrained to place its paws on a specific location (such as the rungs of a ladder), the intensity (but not the phase) of the activity in the corticospinal tract increases dramatically. The neurons in the corticospinal tract are active during the swing phase, as expected; the outputs from these neurons have been shown to precisely encode not only limb elevation to clear the obstacle, but also foot placement. Depending on the intensity of the cortical volley, the ongoing locomotor rhythm may be modified or reset.

In addition, there is information that the motor cortex brings greater contribution in planning the modifications of walking, than considered before.

Conclusion. Research compensatory reflexes posture in response to fluctuations supporting surface indicates two levels of control: strategies and synergies.

Key words: locomotion, walking.

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THE ROLE OF CENTRAL AND AUTONOMIC NERVOUS SYSTEM IN ENSURING FEMALE REPRODUCTIVE FUNCTION

One of the most important aspects of the emergence of pathological disorders of the reproductive system of women is a condition of the central and autonomic nervous system, as well as individual psychological characteristics. Detection of subthreshold psychopathological symptoms in women, the relationship between the manifestation of the pathological process and psychological state is of great importance not only to establish individual typological characteristics of the patient, but also to assess the degree of adaptability, severity of emotional disorders. This fact opens up opportunities for new promising trend forecasting system disorders reproduction in women.

This article summarizes the results of published research papers which set out the modern view on female reproductive disorders depending on the state of the nervous system and its regulatory effects on target organs. Thus the study of dependence of gynecological diseases on stress factors in the present time is reasonable to determine methods for diagnosis of psychological disorders and the development of conservative treatment approaches for these patients.

Conclusion. Reproductive function of women is entirely dependent on the nervous system and its regulatory effects on target organs. Studies on gynecological diseases dependent on stress, at the present time is reasonable to determine the diagnostic methods and the development of psychological disorders conservative approaches to the treatment of these patients.

Key words: reproductive health, psychogenic factors, biogenic amines, stress, infertility, chronic pelvic inflammatory diseases.

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WAYS OF PREVENTION OF CISPLATIN-INDUCED NEPHROTOXICITY

The widespread use of cisplatin as a highly effective cytostatic drug, is often limited by its side effects. Side effects of the drug include ototoxicity, gastrointestinal toxicity, myelosuppression and allergic reactions. But the major dose limiting side effect of cisplatin is nephrotoxicity of cisplatin. This complication develops as a result of getting into epithelial cells of kidneys of cisplatin, which causes damage to nuclear and mitochondrial DNA, oxidative stress, the inflammatory and immune reactions, apoptosis and necrosis, which in turn leads to the death of a large number of cells.

Conducted in recent years the study of molecular mechanisms of cisplatin-induced renal toxicity allowed to explore possible ways to correct this complication. Introduction of sodium chloride 0.9% solution (hydration) is still the primary means of reduction nephrotoxicity of cisplatin. Unfortunately, even with intensive hydration, cisplatin nephrotoxicity appears that indicates the need to develop more effective strategies for prevention of this complication. According to the mechanisms involved

toxicity correction approaches can be divided into four groups, namely: 1) means to reduce renal accumulation of cisplatin; 2) antioxidants; 3) inhibitors of apoptosis; 4) anti-inflammatory factors. Recently, much attention is paid to the study of the role of violations of production gasotransmitters nitrogen monoxide and carbon monoxide in the development of various pathologies, including cisplatin-induced nephrotoxicity, which is accompanied by reduced of production of these biomolecules.

Recently researches in rats we have shown that cisplatin-induced kidney damage associated with impaired metabolism of sulfur-containing amino acids and hydrogen sulfide – one more important gas molecules in the body. Changes in basic biochemical parameters of renal function indicated that the introduction of inhibitor cystathionine gamma-lyase (enzyme of the main pathway of transsulfuration and product H₂S) D,L- propargylglycine potentiates the nephrotoxic effect of cisplatin and the use of exogenous hydrogen sulfide donor sodium hydrosulfide shows nephroprotective effect. Use of hydrogen sulfide donor for therapeutic purpose is sufficiently actual topic for research, including the full range of its biological properties that are not limited to vasodilatory, antioxidant and anti-inflammatory effects. The research of the majority proposed means of protection is limited to experimental research because the final resolution of this issue is still relevant.

Conclusion. The following articles in evidence suggests that a number of issues related to the molecular mechanisms of nephrotoxicity CIN and its correction is not fully elucidated and require further study.

Key words: cisplatin, kidney, nephrotoxicity, correction.

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INFLAMMATORY DISEASES OF THE PELVIC ORGANS. ETIOLOGICAL FACTORS, DIAGNOSTIC CRITERIA, TREATMENT AND PREVENTION

METHODS

According to WHO (June 2000), 65 - 70% of all cases are reported by chlamydia and gonorrhea (*N. gonorrhoeae* 40 - 50%, *C. trachomatis* 30%). Anaerobic Bacterial vaginosis flora and other Gram-positive and Gram-negative anaerobic and aerobic bacteria - up to 15%, Gram-negative bacteria (*E. coli*, etc.). - 10-15%, mycoplasma and ureaplasma - 12-20%, *Actinomyces israelii* - often at use intrauterine device, *trichomonas vaginalis* frequency varies considerably, herpes and adenoviral infection - up to 10%.

The *purpose* of the study on the basis of published data to identify the main etiological factors, current diagnostic criteria, treatment and prevention of inflammatory diseases of the pelvic organs.

The modern data on inflammatory pelvic disease, group of diseases (independent nosological forms) upper parts of the reproductive tract of women, which includes endometritis, salpingitis, oophoritis, tubo-ovarian abscess and pelvic peritonitis are given in this article. These pathological conditions conducive to the emergence of dangerous complications, including infertility. That is why the study of this disease is extremely important in modern medicine.

Conclusion. One of the main symptoms of inflammatory diseases of the pelvic organs are pain - recurrent abdominal pain, often radiating to the lumbar spine and coccygeal, metrorrhagia, dysmenorrhea, mucus and muco-purulent discharge, dyzurichnyy syndrome with frequent urination and ryzamy. You may also experience general symptoms - fever, fatigue, general fatigue, mental and emotional disorders. With the untimely appeal for medical help may cause suppurative complications (abscesses tuboovarial, pelvioperitonit). Errors in the diagnosis of inflammatory diseases of the pelvic organs and cases that did not result in an underestimation of the extent treated this disease. Treatment of inflammatory diseases of the pelvic organs should be in two broad-spectrum antibiotics for pathogens, but

can not completely eliminate damage to the reproductive organs of women. Also, if timely treatment is not carried out, these diseases lead to infertility due to obstruction of the fallopian tubes, ectopic pregnancy, chronic pain and recurrent inflammatory diseases of the pelvic organs.

Key words: inflammatory diseases of the pelvis organs, genitally tract, infection of the uterus, vaginal microflora.

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USE OF METHYLENE BLUE IN TREATMENT OF GASTRO-DUODENAL HEMORRHAGES OF ULCER GENESIS

Purpose - to analyze existing literature data concerning application of the drug in medicine and define the possibility of use while providing endoscopic homeostasis in case of ulcer gastric-intestinal hemorrhages.

Along with the mentioned above data methylene blue is extensively used in contemporary medical practice. Methylene blue has expressed antioxidant and anti-angiogenic features, which is connected with major inhibition in activity of nitric oxide (NO). Methylene blue is a non-specific blocker of NO-synthase (NOS), influencing all its isoforms – neuronal, endothelial and inducible. Considering the mentioned above features of the medicine, its extensive use in operative surgery and gynecology for sanitation of abdomen in the form of 0.5% liquid solution with the purpose of prophylaxis of commissural disease of organs, especially oviducts and ovaries. Taking into account the inhibiting action of the medicine on forms of NOS and decrease in concentration of NO in blood serum methylene blue is actively used

for pathogenic therapy of a septic shock. Scientific data are provided concerning inhalation application of 0.5% liquid solution of methylene blue in case of cardiogenic edema of lungs with the purpose of lowering blood filling of lung vessel channel by means of occlusion of dilated vessels. Wide application of coloring material is observed in endoscopy for carrying out chromoendoscopy with the purpose of early diagnostics of malignant tumors in the intestinal tract.

We offered a way of prophylaxis of relapse of gastro-duodenal hemorrhage of ulcer genesis, which includes esophago-duodenoscopy, electric coagulation of hemorrhaging vessels and injection of 0.9% liquid of sodium chloride in the amount of 100-200 ml directly under ulcer substance of mucous of a stomach and duodenum, which is different for the reason of additional introduction of 0.25% of methylene blue solution in the amount of 5 – 10 ml.

Increased activity of inducible NO-synthase is observed in periulcerous area, which can be explained by manifested leukocyte infiltration with prevalence of the lymphocyte chain. Inducible NO-synthase participates in cyclo-oxygen mechanism and it is activated by cytokines of lymphocytes. At that increased synthesis of NO is observed from amino-acid L-arginine. In case of increased production of NO expressed vasodilatation is observed along with blocking of vasoconstriction, inhibition of clot formation. Those changes cause blood filling of periulcerous area may lead to hemorrhage and create conditions for its relapse. Methylene blue is a medicine which selectively inhibits activity of inducible NO-synthase, stops processes of vasodilatation, stimulates constriction of vessels thus creating conditions for prolonged decrease of blood filling in periulcerous area. Application of this method of treatment and prophylaxis of relapse of gastro-duodenal hemorrhage of ulcer genesis compared with prototype enables doctors to decrease the number of relapsing hemorrhages by 58.5%.

Conclusions. The carried out literal review and the carried out by us research enabled doctors to reveal new ways of using a medicine which has been known for a long time within doing the dissertation work. More profound study of pathogenesis in

development of ulcer hemorrhage from upper areas of gastric-digestive tract enables doctors to widen limits of application of new and well-known medical substances.

Key words: gastric and duodenum ulcer, gastroduodenal bleeding.

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POSSIBILITIES OF TRANSVAGINAL ECHOGRAPHY IN DIAGNOSTICS OF ISTHMIC-CERVICAL INSUFFICIENCY

The problem of habitual noncarrying of pregnancy is one of the most urgent in modern obstetrics, as it leads not only to reproductive function disorder in women, but also has a negative effect on birth-rate, causing a significant increase of perinatal mortality level and morbidity rate of newborns in the early neonatal period [Sydelnykova, 2005]. Despite multifactorial etiology of noncarrying of pregnancy, one of the major factor - a reason which causes abortion/miscarriage in the second trimester is isthmic-cervical insufficiency [Vlasov, 2008]. The frequency of this pathology varies from 0.2 to 65 % [Sydelnykova, 2009].

Diagnostics of isthmic-cervical insufficiency is extremely difficult because of ultrasound examination data misinterpretation [Golfier et al, 2001] and in it's turn it can lead to the choice of irrational treatment mode.

With a widespread use of echography in practice expanded diagnostic capabilities of dynamic observation over uterine cervix [Mgaloblishvili and others, 2003]. However, there are also many contradictions. This regards time frame of ultrasound examination of the length of uterine cervix and prognostic criteria for the length of uterine cervix [Mgaloblishvili and others, 2003].

Research objective: to develop clear diagnostic criteria for assessing the capability of the uterine cervix during pregnancy and determine the efficiency, prognostic significance and reasonability of transvaginal ultrasonography of the uterine cervix in pregnant women at gestational age of 18-21 weeks along with prenatal screening of the second trimester.

The work was done on the basis of the Chair of Obstetrics and Gynecology №1 of Vinnytsia Clinical Maternity House №1. In the course of study conduct we used a diagnostic US scanner Ultima PA Grys 991218.013 with using of a transvaginal transducer with operating frequency 5 MHz.

Taking into consideration the availability of various procedures and parameters for ultrasound examination of cervical incompetence during pregnancy, we have developed a unified method for the assessment of uterine cervix (Table 1).

This method is based on the conduct of transvaginal ultrasonography of uterine cervix and investigation of its capacity according to such ultrasound signs: length of uterine cervix, width of uterine cervix, opening of the internal os, angle of inclination of uterine cervix and data obtained when performing a cervical stress test.

Transvaginal scanning was performed on an empty urinary bladder in a semisitting position, as the filled bladder extends the cervix.

The obtained data was brought to the table developed by us, gave points and according to the received amount of points we prognosticated echosonographic capability of uterine cervix, that is the presence or absence of isthmic-cervical insufficiency.

Table 1. Echosonographic assessment of uterine cervix capability

Sign	2 points	1 point	0 point
Length of uterine cervix	>35 mm	35-25 mm	<25 mm
Width of uterine cervix	<35 mm	36-42 mm	>46 mm
Opening of the internal os	<6 mm	>6 mm without fetal bladder prolapse	>6 mm with fetal bladder prolapse

Angle of inclination	<90	90	90
Length of uterine cervix when performing a cervical stress test	<2	>2 without dilatation of internal os	>2 mm with dilatation of internal os

Thus, with point total 8-10, the uterine cervix is considered to be capable, with point total 5-7, the capability of the uterine cervix is considered to be questionable, with point total 4 and less we establish diagnosis: isthmic-cervical insufficiency.

The examination was performed at gestational age of 18-21 weeks along with prenatal screening of the second trimester of pregnancy.

As a result of transvaginal ultrasonography in pregnant women of all investigated groups the following results were obtained: percent of women with isthmic-cervical insufficiency, according to the results of transvaginal ultrasonography (0-4 points), the largest was in the first group and it made 10.81 %, which is 2 times higher than the rate in 2nd group (5.42 %) and 3.5 times higher than in the control group (3.07 %) Questionable capability of the uterine cervix (5-7 points) was observed in 25.68 % of pregnant women in the first group, respectively 17.24 % and 15.71 % in pregnant women of the second and control group of our study.

Conclusion. Transvaginal ultrasonography of the uterine cervix in pregnant women is a screening examination in order to determine isthmic-cervical insufficiency. Recommended period for this examination is 18-21 week of gestational age along with prenatal screening. We have developed clear criteria of Ultrasound examination for assessing the capability of the uterine cervix during pregnancy and determined the most optimal prognostically - significant periods for transvaginal ultrasonography of the uterine cervix in pregnant women. Point-based echosonographic assessment of the uterine cervix capability during pregnancy was offered for the first time ever. Pregnant women who as a result of examination of the uterine cervix capability by means of echography got point total of 5-7 were referred to a group of increased risk of isthmic -cervical insufficiency. It is advisable to do a repeat examination for such women after 2 weeks. Timely examination, correct assessment of ultrasound

diagnosis of isthmic-cervical insufficiency and its rational treatment can decrease cases of premature births and reduce the percentage of perinatal losses. The widespread use of transvaginal ultrasonography method in women at gestational age of 18-21 weeks along with prenatal screening of the second trimester significantly extends the possibilities of this method in the diagnosis of both isthmic-cervical insufficiency and other obstetric pathology.

Key words: isthmic-cervical insufficiency, ultrasound cervicometry, risk factors of premature births.

Chronicle

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MYKOLA IVANOVYCH PYROGOV AND FORMATION OF THE DOMESTIC SYSTEM OF THE HIGH MEDICAL EDUCATION IN THE FIRST HALF OF XIX CENTURY. COMMUNICATION 2. FROM THE SECOND UNIVERSITY STATUS (1835 Y.) TILL THE MIDDLE OF 40S Y. OF XIX CENTURY.

IVAN ILICH MISCHUK

(To 90 years old from the birth)

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