

ABSTRACT&REFERENCES

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FEATURES OF THE CARDIOVASCULAR SYSTEM LESION IN PATIENTS WITH COVID-19

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Mykola Kopytsya, MD, Senior Researcher, Head of Department, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: n_kopitsa@ukr.net

ORCID: <http://orcid.org/0000-0003-4779-7347>

Iuliia Rodionova, PhD, Researcher, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: julia.rodionova26@gmail.com

ORCID: <http://orcid.org/0000-0003-4779-7347>

Nathalia Tytarenko, PhD, Researcher, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: ntytarenko7@gmail.com

ORCID: <http://orcid.org/0000-0002-9339-9262>

Yaroslava Hilova, PhD, Researcher, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: yahilova@gmail.com

ORCID: <http://orcid.org/0000-0002-4545-3009>

Inna Kutya, Junior Researcher, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: kutyainna@rambler.ru

ORCID: <http://orcid.org/0000-0001-5762-1826>

Alla Kobets, Junior Researcher, Department of Prevention and Treatment of Emergency Conditions, Government Institution «L. T. Malaya Therapy National Institute of the National Academy of Medical Sciences of Ukraine», Lyubovi Maloy ave., 2a, Kharkiv, Ukraine, 61039

E-mail: co.alla@ukr.net

ORCID: <http://orcid.org/0000-0001-6090-689X>

The article is devoted to the analysis of cardiovascular lesions in COVID-19. The main problems of comorbidity are described and recommendations for the treatment of patients with myocardial infarction and COVID-19 are generalized, the features of the appointment of certain groups of drugs are emphasized.

The aim of the research. *To study the effect of coronavirus on the cardiovascular system to understand the correct algorithm for providing medical care for cardiovascular diseases.*

Methods. *As a methodological basis, the article uses the existing data about the epidemiological characteristics of coronavirus infections SARS, MERS, COVID-19 and damage of the cardiovascular system in existing heart diseases and viral pathologies. A new cardiac lesion in the form of acute heart injury is also described, confirmed by an increase in troponin.*

Results. *As a result of the high contagiousness of the COVID-19 viral infection, treatment of patients with acute myocardial infarction or other cardiovascular pathology in patients with undetermined SARS COV-2 status, it is performed as if he is positive, according to current guidelines. It is advisable for all patients to evaluate the systolic function of the left ventricle during angiography in order to reduce the need for echocardiography and decline the risk of staff infection. Combination of hydroxychloroquine and azithromycin has the proarrhythmogenic effect.*

Conclusions. *In the context of a global pandemic of coronavirus infection, existing data on the possible risks and lesions of the cardiovascular system in patients with COVID-19 should be taken into account. The treatment and prevention of the spread of infection is based on the assumption that all patients can be potentially infected. It is advisable to use thromboprophylaxis in patients with COVID-19, especially those who have activation of the coagulation system. Treatment of severe COVID-19-pneumonia also requires the appointment of anticoagulants. The key point is the interdisciplinary management of severe cases of COVID-19*

Keywords: *COVID-19, cardiovascular disease, myocardial infarction, troponin, acute heart injury, D-dimer, thromboprophylaxis, hydroxychloroquin, ACE inhibitors, prevention of COVID-19 infection*

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FEATURES OF PATHOGENESIS AND TREATMENT OF BREAST CANCER IN THE WORKS OF MODERN ONCOLOGISTS

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Tamara Tamm, MD, Professor, Department of Surgery and Proctology, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
E-mail: tamm_ti@ukr.net

Grigory Oleinik, MD, Professor, Department of Combustiology, Reconstructive and Plastic Surgery, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
E-mail: Griol54@meta.ua

Oleksandra Prokopyuk, PhD, Associate Professor, Department of Obstetrics, gynecology and oncology, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
E-mail: prokopyuka@gmail.com

Maryna Sadchikova, PhD, Associate Professor, Department of Oncology Surgery, Radiation Therapy, Palliative Care, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
E-mail: marinasadchikova71@gmail.com

Yuriy Vinnik, MD, Professor, Department of Oncology Surgery, Radiation Therapy, Palliative Care, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176

E-mail: profvinnik@gmail.com

To increase the effectiveness of treatment for breast cancer, representatives of various oncological schools use various approaches and scientific results obtained using high technologies, as evidenced by the analysis of scientific publications of specialists.

The aim of this literature review was to analyze the influence of some scientific achievements using high technologies on modern ideas of oncologists about the pathogenesis of breast cancer and new approaches to increasing the efficiency of its treatment.

Material and research methods. Scientific articles in journals specializing in Oncology, materials of scientific conferences, Internet resources

Research results and their discussion. Unsatisfactory results of the treatment of breast cancer, frequent relapses of this pathology, high mortality, on the one hand, and the results of scientific studies using high technologies, on the other hand, led oncologists to search for new approaches to solving the problem by improving surgical, medicinal and radiation treatments.

Conclusions. The search for new approaches to solving the issue of increasing the effectiveness of breast cancer treatment is carried out in different directions: in the field of improving surgical treatment methods, drug methods, taking into account inhibitors of immune control points, new drugs for targeted therapy and the theory of cancer stem cells. The development of new approaches to the treatment of breast cancer has great prospects in addressing the issue of increasing the effectiveness of its treatment
Keywords: breast cancer, new treatment approaches, the impact of high technology, targeted drugs, cancer stem cells

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Dmitry F. Chebotarev Institute of Gerontology of National Academy of Medical Sciences of Ukraine, Vyshhorodska str., 67, Kyiv, Ukraine, 04114

E-mail: galka.v@ukr.net

ORCID: <http://orcid.org/0000-0002-1953-0314>

Ervin Asanov, MD, Chief Researcher, Department of Clinical Physiology and Pathology of Internal Organs, Dmitry F. Chebotarev Institute of Gerontology of National Academy of Medical Sciences of Ukraine, Vyshhorodska str., 67, Kyiv, Ukraine, 04114

E-mail: eoasanov@ukr.net

ORCID: <http://orcid.org/0000-0003-4021-1710>

The aim. To review the current literature to study the prevalence and early diagnosis of the combined course of ischemic heart disease (IHD) and chronic obstructive pulmonary disease (COPD).

Results. The combination of IHD and COPD is one of the common comorbid conditions, especially in older age. With this mixed pathology, the course of both coronary heart disease and COPD worsens and the risk of adverse events increases. Diagnostic-treatment and rehabilitation programs in combination with coronary heart disease and COPD complication. This requires a comprehensive approach and consideration of the pathogenesis features of each disease. In coronary heart disease, especially in older age, diagnostic measures should include targeted detection of COPD and vice versa.

Conclusions. Despite numerous studies of the IHD-COPD tandem, the issues of prevalence, course, and life expectancy in older patients with this comorbid pathology have not been adequately addressed. Causes of comorbidity are common features of pathogenesis, clinical symptoms and risk factors. At the same time, the combination of coronary heart disease and COPD raises debating questions about diagnosis, treatment and rehabilitation, especially in the elderly and aging. It is in this direction that the focus of future research on the combination of IHD and COPD should be directed. Purposeful study will help to develop directions for correction, prognosis and prevention of this comorbid pathology, especially in elderly patients

Keywords: ischemic heart disease, chronic obstructive pulmonary disease, prevalence, comorbidity, old age

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ISCHEMIC HEART DISEASE AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE: THE TOPICAL PROBLEM OF COMORBIDITY IN INTERNAL MEDICINE

p. 20-24

Galina Voinarovska, Junior Researcher, Department of Clinical Physiology and Pathology of Internal Organs,

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OSTEOPROTEGERIN AS A POSSIBLE MARKER OF DIABETES-ASSOCIATED OSTEOARTHRITIS

p. 25-32

Valeriia Orlenko, PhD, Head of Department, Scientific Advisory Department of Ambulatory and Preventive Care in Patients with Endocrine Disorders, State Institution “V. P. Komisarenko Institute of Endocrinology and Metabolism of the National Academy of Medical Sciences of Ukraine”, Vyshgorodska str., 69, Kyiv, Ukraine, 04114

E-mail: orleva@ukr.net

ORCID: <http://orcid.org/0000-0002-8400-576X>

Kateryna Ivaskiva, PhD, Senior Researcher, Scientific Advisory Department of Ambulatory and Preventive Care in Patients with Endocrine Disorders, State Institution “V. P. Komisarenko Institute of Endocrinology and Metabolism of the National Academy of Medical Sciences of Ukraine”, Vyshgorodska str., 69, Kyiv, Ukraine, 04114

E-mail: k_iva@ukr.net

ORCID: <http://orcid.org/0000-0003-1680-4663>

Patients with type 1 diabetes have a higher incidence of osteoarthritis and early manifestation than in the general population. The role of insulin deficiency and hyperglycaemia in the initiation of the destructive process has been proven, but the processes of local and systemic regulation of the balance between anabolic and catabolic processes in the joint and their role in the development of diabetes-associated osteoarthritis remain poorly understood.

The aim: to study the role of osteoprotegerin (soluble receptor for tumour necrosis factor- α) in the development and progression of diabetes-associated osteoarthritis and its relationship with major metabolic parameters in patients with diabetes mellitus.

Materials and methods. 40 patients with type 1 diabetes (17 men and 23 women) were examined, the mean age of the patients was 38.0 ± 2.0 years, the duration of the diabetes was 18.3 ± 1.9 years, the average level of HbA1c was 8.6 ± 0.3 % and 49 patients with type 2 diabetes mellitus (23 men and 26 women), mean age of patients 61.7 ± 1.3 years, duration of diabetes 12.1 ± 1.1 years, mean level HbA1c 7.6 ± 0.1 %. Arthropathy was established in 70.0 ± 7.3 % patients with type 1 diabetes, in 69.4 ± 6.6 % in patients with type 2 diabetes. By sex and type of diabetes, the proportions of patients with and without arthropathy were not statistically different ($p > 0.05$). The serum content of osteoprotegerin was determined by ELISA using a kit of reagents from Diaclone (France) and enzyme-linked analyser Stat fax 3200 (USA).

Results. In patients with arthropathy, a significant increase in osteoprotegerin levels was found. The risk of developing arthropathy in patients with type 1 diabetes with an increased levels of osteoprotegerin is 2.3 times higher

than at the normal level (relative risk (RR)=2.33; confidence interval (CI 1.42–3.82; $p < 0.001$), in patients with diabetes 2 type – in 1.55 times (RR=1.55; CI 1.16–1.91). Significant differences in the mean osteoprotegerin level were found for groups absent/present arthropathy. A direct correlation between osteoprotegerin and age was found ($p < 0.01$), diabetes mellitus duration ($p < 0.05$); creatinine level ($p < 0.05$), and an inverse correlation was found with glomerular filtration rate ($p < 0.05$). In the absence of arthropathy, osteoprotegerin and fasting glucose were directly correlated in the type 1 diabetes group ($p < 0.05$). Increased osteoprotegerin levels have been shown to be more common in male patients with longer duration of diabetes. In these patients, no renal lesions were detected, but arthropathy was present as a complication of the underlying disease against the background of an increase in HbA1c.

Conclusions. Diabetes-associated osteoarthritis occurs on the background of increased serum osteoprotegerin levels. An increase in the level of osteoprotegerin with an increase in the stage of osteoarthritis was established, so that its level reflects the severity of osteoarthritis. Osteoprotegerin established a direct relationship with the level of creatinine and negatively associated with glomerular filtration rate, i.e. the development and progression of osteoarthritis progression takes place against the background of other vascular complications of diabetes, in particular diabetic nephropathy. An increase in osteoprotegerin is more typical for male patients and depends on the duration of diabetes

Keywords: diabetes mellitus, diabetes-associated osteoarthritis, osteoprotegerin, metabolic parameters, risk factors

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LONG-TERM RESULTS OF COMBINED TREATMENT OF TRIPLE-NEGATIVE BREAST CANCER

p. 33-37

Yuriy Vinnyk, MD, Professor, Head of Department, Department of Oncological Surgery, Radiation Therapy and Palliative Care, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176
E-mail: profvinnik@gmail.com

Vadim Vlasenko, PhD, Molecule Medical Center, Hoholia str., 7, Kharkiv, Ukraine, 61057

E-mail: oncoplast@i.ua

ORCID: <http://orcid.org/0000-0002-8215-1958>

Anna Baranova, Postgraduate Student, Department of Oncological Surgery, Radiation Therapy and Palliative Care, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176, State Institution «S. P. Grigoriev Institute of Medical Radiology of National Academy of Medical Sciences of Ukraine», Pushkinska str., 82, Kharkiv, Ukraine, 61024

E-mail: dr.baranovaanna@gmail.com

ORCID: <http://orcid.org/0000-0002-2419-9910>

The most dangerous immunohistochemical type of breast cancer is the triple-negative type. This subtype is detected in 10–20 % of breast cancer cases and is characterized by an aggressive clinical course with high proliferative activity and growth rate, which leads to more active surgical tactics and systemic treatment.

The aim of the study was to study the long-term results of the combined treatment of triple-negative type of breast cancer in comparison with other immunohistochemical types.

Materials and methods. The treatment results of 140 women with breast cancer who underwent radical surgery and were available for contact after 6 months and more after the operation were analyzed depending on the initial clinical and pathological parameters and treatment features using the methods of descriptive statistics, χ^2 criterion and correlation analysis, survival tables and the Kaplan-Meier method.

Results. During the analyzed period, distant metastases were detected in 5 (3.6 %), locoregional recurrence in 15

(10.7%), 12 (8.6%) patients died. Long-term results with triple-negative type of breast cancer are worse than with luminal forms. A significant dependence of survival on neoadjuvant chemotherapy was revealed. Radiation therapy, the volume of surgery (radical resection or radical mastectomy), breast reconstruction did not significantly affect the long-term result of treatment.

Conclusion. Triple-negative type of breast cancer has the worst long-term results with an increase in the frequency of distant and locoregional metastases and a decrease in overall and relapse-free survival compared with luminal types. After neoadjuvant chemotherapy, the frequency of locoregional relapses decreases and the life expectancy of patients increases.

Keywords: triple negative breast cancer, radical surgery, combination treatment, long-term outcome, neoadjuvant chemotherapy

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ASSESSMENT OF PROGNOSTIC FACTORS FOR RECONSTRUCTION OF THE UPPER THIRD OF THE URETER WITH A TUBULARIZED PELVIS FLAP

p. 38-44

Vladyslav Demchenko, PhD, Associate Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: urologycenter@ukr.net

Dmytro Shchukin, MD, Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: shukindv@gmail.com

ORCID: <http://orcid.org/0000-0002-2335-6101>

Gennadii Khareba, PhD, Associate Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: gen.khareba@gmail.com

ORCID: <http://orcid.org/0000-0002-8234-3896>

Igor Antonyan, MD, Associate Professor, Head of Department, Department of General, Child's and Oncological Urology, Kharkiv Medical Academy of Postgraduate Education, Amosova str., 58, Kharkiv, Ukraine, 61176

E-mail: im.antonyan@gmail.com

ORCID: <http://orcid.org/0000-0002-5594-6210>

Andriy Maltsev, MD, Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

ORCID: <http://orcid.org/0000-0002-8745-3920>

Ureteral plastic with a tubularized pelvic flap is a rare option of ureteral reconstruction. We present the assessment of the factors that are important for predicting the success of this operation.

The aim. *The purpose of the study was to assess the factors that are important in predicting the success of reconstruction of the upper third of the ureter with a tubularized pelvis flap.*

Material and methods. *The study included 73 patients who were divided into 2 groups. The first group had extended strictures of the upper third of the ureter (n=14/19.2 %), and the second group had pathology of the ureteropelvic junction associated with ureterovascular conflict (n=59/80.8 %).*

Results. *The length of the pelvic flap varied from 2.5 to 10.0 cm and reached an average of 3.9 cm. Early postoperative complications (Clavien-Dindo gradation <3) were observed in 14 (9.2 %) patients out of 73, and dominated in the first group. The total number of positive long-term results (good + satisfactory) was 97.3 %. Two poor results were reported only in patients of the first group with prolonged recurrent strictures. A significant factor in the prognosis of complications was the secondary nature of the operation (p<0.004). The factors of the long-term results prognosis were the performance of dismembered tubularized flap pyeloplasty due to the extended strictures of the upper third of the ureter, and the duration of the operation more than 120 minutes (p<0.009 and p<0.026).*

Conclusion. *Surgical correction of the upper third of the ureter by a tubularized pelvis flap is a highly effective and safe method of reconstruction of the upper urinary tract. The main negative factors in the prognosis of this operation results are the secondary nature of the operation, the performance of the dismembered tubularized flap pyeloplasty because of the extended strictures of the upper third of the ureter, and the duration of the operation more than 120 minutes*

Keywords: *ureteral reconstruction, ureteropelvic junction reconstruction, dismembered tubularized flap pyeloplasty*

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RESULTS OF NEPHRON-SPARING SURGERY FOR MULTIFOCAL KIDNEY TUMORS

p. 44-49

Gennadii Khareba, PhD, Associate Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: gen.khareba@gmail.com

ORCID: <http://orcid.org/0000-0002-8234-3896>

Volodymyr Lisoviy, MD, Professor, Head of Department, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: urology.knmu@ukr.net

ORCID: <http://orcid.org/0000-0002-2301-2229>

Dmytro Shchukin, MD, Professor, Department of Urology, Nephrology and Andrology, Kharkiv National Medical University, Nauky ave., 4, Kharkiv, Ukraine, 61022

E-mail: shukindv@gmail.com

ORCID: <http://orcid.org/0000-0002-2335-6101>

Surgical treatment is the main therapy for patients with renal cell carcinoma. The current trend in the treatment of kidney tumours is the widespread introduction of nephron-sparing surgery. This tendency is applied to complex

types of large size tumours, with venous tumour thrombus, intrarenal, and multifocal kidney tumours.

The aim: to investigate the results of nephron-sparing surgery for multifocal kidney tumours.

Material and methods. The results were obtained after nephron-sparing surgery of 701 patients with renal tumours. After the distribution of all patients according to the criterion of "multifocality", the study dealt with assessment of 22 (3.1 %) cases of nephron-sparing surgery. There were also 679 (96.9 %) patients with a solitary tumour.

Results. It was found that the multifocality of renal tumours is a significant factor in the complexity of nephron-sparing surgery. It was demonstrated by increase in the time of surgery, more blood loss and a longer time of kidney ischemia, and kidney function was worse than after operations with solitary tumours. Follow-up during 46.5 ± 2.1 months on average was performed. A significant difference ($p < 0.026$) was found only in the number of patients with distant metastases. These patients had mostly multifocal tumours.

The results of the comparative statistical analysis showed that the 5-year overall survival among patients with multifocal tumours was 88.9 % and among patients with solitary tumours it was 94.6 %. The differences were not significant ($p > 0.937$). At the same time, the 5-year overall progression-free survival was better for patients with solitary tumours ($p < 0.041$).

Conclusion. The multifocality of renal tumours is a significant factor in the complexity of nephron-sparing surgery, which is reflected in the surgical results of treatment.

The results showed that the nephron-sparing surgery of multifocal neoplasms of the kidney does not demonstrate a significant increase in the frequency of local recurrence. However, 5-year progression-free survival among patients with multifocal tumours was worse and distant metastases were diagnosed more often than among patients with solitary tumours

Keywords: multifocality of kidney tumours, long-term results, nephron-sparing surgery

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THE CYTOKINE SYSTEM'S STATUS IN BACTERIAL DYSBIOSIS AND BACTERIAL VAGINOSIS

p. 50-56

Oleksandr Hruzevskiy, PhD, Associate Professor, Head of Department, Department of Microbiology, Virology and Immunology, Odessa National Medical University, Valikhovskiy lane, 2, Odesa, Ukraine, 65029
E-mail: gruzevskiy@ua.fm; venger87@ukr.net
ORCID: <http://orcid.org/0000-0003-1953-8380>

Interrelations of conditionally-pathogenic microflora and vaginal mucosa's APC are realized by forming of proinflammatory and regulatory cytokines which can provoke bacterial dysbiosis progression and bacterial vaginosis development.

The aim of the study: to determine cytokine system's status in the blood and vaginal fluid in bacterial dysbiosis and bacterial vaginosis.

Material and methods. There were used data from 298 women, divided into groups according to the index of conditionally pathogenic microflora and normobiota index: normocenosis ($n=53$); grade I bacterial dysbiosis ($n=128$); and grade II bacterial dysbiosis ($n=117$). In the last group 83 patients with normobiota index >1 lg GE/sample, with bacterial vaginosis isolated. The posterolateral vaginal paries epithelium scrapings examined with PCR: facultative and obligate anaerobes, myco- and ureplasm and yeast fungi were quantified. Contents of IL in VF and in the serum were studied with enzyme-linked immunosorbent assay. For statistical analysis Statistica 10 soft (StatSoft, Inc., USA) was applied.

Results. Blood interleukins' contents increased with progressing of bacterial dysbiosis, and was maximal in bacterial vaginosis: 3,0-6,0 times ($p<0,001$) more than in normocenosis. Levels of these interleukins were: interleukin- 1β > interleukin-6 > interleukin-8 > tumour necrosis factor- α > interleukin-2; in vaginal fluid: interleukin-6 > tumour necrosis factor- α > interleukin- 1β > interleukin-8 > interleukin-2. Content of γ -interferon in blood and vaginal fluid was higher in bacterial dysbiosis, and was less in manifested bacterial dysbiosis and bacterial vaginosis (comparing to normocenosis). Interleukin-4 and interleukin-10 levels were less in the blood and vaginal fluid along to the pro-

gressing of bacterial dysbiosis. Transforming growth factor- 1β level in the blood was more in bacterial vaginosis only, whereas in vaginal fluid – in bacterial dysbiosis and bacterial vaginosis. Among blood cytokines interleukin- 1β levels correlated with index of conditionally-pathogenic microflora: its content more 24,6 pg/ml indicated bacterial dysbiosis-II, from 9,6 to 24,5 pg/ml – bacterial dysbiosis-I, and contents less than 9,6 pg/ml – normocenosis. Transforming growth factor- 1β and interleukin-10 contents in vaginal fluid were suppressive.

Conclusion. Obtained data confirmed determining role of cytokine system in bacterial dysbiosis progression and bacterial vaginosis development. Content of proinflammatory cytokines in the bloodstream increased with progressing of dysbiosis and reached maximum I bacterial vaginosis. Content of anti-inflammatory cytokines with progressing of dysbiosis decreased both in the bloodstream and vaginal fluid

Keywords: bacterial vaginosis, bacterial dysbiosis, normocenosis, interleukin- 1β , interleukin-6, interleukin-8, tumour necrosis factor- α , interleukin-4, interleukin-10, transforming growth factor- 1β

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