49. Иванов Г. В. Основы нормальной анатомии человека. В 2 т. М. : Медгиз, 1949.
50. Reisfield D. R. Varicosities in veins of the inguinal canal during pregnancy. *J. Med. Soc.* 1962. Vol. 59. P. 24–26.
51. Sodhi M .S., Dodd H. Venous anatomy of the sapheno-femoral area. *Brit. J. Surg*. 1967. Vol. 54. P. 154.
52. Franceschi C., Balanini A. Points de luite pelviens visceraus et varices des membres interieus. *Phlebologie.* 2004. Vol. 57. P. 37–42.
53. Возможности локальной флебэктомии в коррекции пельвио-перинеального венозного рефлюкса / С. Г. Гаврилов, Д. А. Сон, И. С. Лебедев и др. Ангиология и сосудистая хирургия. 2018. Т 24, № 3. С. 86–89.
54. Флебосклерозирующее лечение вульварного варикоза / С. Г. Гаврилов, И. А. Золотухин, Е. П. Москаленко, О. О. Турищева. Флебология. 2016. № 10(1). С. 50–53. doi: 10.17116/flebo201610150-53.
55. Изолированные хирургические вмешательства на подкожных венах при варикозной болезни вен таза / С. Г. Гаврилов, А. В. Каралкин, В. Е. Васильев и др. Флебология. 2012. № 6(2). С. 9–13.
56. Ryu K. H., Yoon J.-H. Ultrasonographic diagnosis of round ligament varicosities mimicking inguinal hernia: report of two cases with literature review. *Ultrasonography*. 2014. Vol. 33(3). P. 216–221. doi: 10.14366/usg.14006.
57. Nguyen Q. H., Gruenewald S. M. Doppler sonography in the diagnosis of round ligament varicosities during pregnancy. *J. Clin. Ultrasoud.* 2008. Vol. 36. P. 177–179.
58. Round ligament varicosities mimicking inguinal hernia in pregnancy / D. K. Lee, S. W. Bae, H. Moon, Y. K. Kim. J Korean Surg. Soc. 2011. Vol. 80. P. 437–439.
59. Uzum M., Akkann K., Coskun B. Round ligament varicosities mimicking inguinal hernias in pregnancy: importance of coor Doppler sonography. *Diagn. Interv. Radiol*. 2010. Vol. 16. P. 150–152.
60. Varices of the round ligament mimicking: an inguinal hernia. An important differential diagnosis during pregnancy / B. M. Dent, A. Al Samaraee, P. E. Coyne et al. *Ann. R. Coll. Surg. Engl.* 2010. Vol. 92. P. w10-w11.
61. Round ligament varicosities: a rare cause of groin swelling in pregnancy / A. V. Polat, R. Aydin, A. K. Polat et al. Abdom Imaging. 2013. Vol. 38. P. 1178–1181.
62. Sonography of various cystic masses of the female groin / S. N. Oh, S. E. Jung, S. E. Rha et al. *J. Ultrasound Med*. 2007. Vol. 26. C. 1735–1742.
63. Український Консенсус з лікування пацієнтів з варикозною хворобою нижніх кінцівок. Київ, 2005.
64. Cervical varix as a cause of vaginal bleeding during pregnancy-Prenatal diagnosis by color Doppler ultrasound. J. P. Kusanovic, E. Soto et al. *J. Ultrasound Med.* 2006. Vol. 25(4). P. 545–549.
65. Принципи профілактики тромботичних ускладнень варикозної хвороби у вагітних / В. К. Ліхачов, Т. Ю. Ляховська, Л. М. Добровольська та ін. Збірник наукових праць асоціації акушерів-гінекологів України. 2014. 1/2;33/34. С. 218–220.
66. Медведь В. И., Бенюк В. А., Коваль С. Д. Венозные осложнения у беременных. *Медичні аспекти здоров'я жінки*. 2010. № 7. С. 29–33.

CURRENT PROBLEMS OF THE PATHOGENETIC TREATMENT OF PURULENT-INFLAMMATORY DISEASES AND SEPSIS

Bulavenko O. V., Ostapiuk L. R., Rud V. O.
Vinnytsia, M.I. Pyrohov Vinnytsia National Medical University

The prevention, diagnostics and treatment of purulent-inflammatory diseases and sepsis constitute the very actual problems in the obstetric practice. After all, in the process of pre-gravid preparation, the course of pregnancy, childbirth and the postpartum period, there are a lot of provoking and specific factors that can cause a negative impact on patients at each of these stages. It should be especially noted that in this case doctors bear a double responsibility: for the life and health of the woman and the newborn child. At the same time, the problem of preserving the reproductive health of a woman and her newborn child is extremely important. The issue of preserving a woman's reproductive health is extremely important, as the health of future generations will depend significantly on it. Among the main causes of maternal mortality are postpartum hemorrhage, preeclampsia and purulent-septic complications [1]. Obstetric sepsis is included in the list of the main causes of maternal mortality not only in the low-income countries. In high-income countries there is a significant increase in operative activity in obstetrics, which contributes to the increased frequency of postpartum purulent-inflammatory diseases and sepsis. Also, in these countries there is the problem of the increasing frequency of obesity and diabetes, including among pregnant women. The patients with diabetes are the risk group for the occurrence of postpartum purulent-septic complications, including postpartum endometritis (PE).

In this regard, the understanding of the pathogenesis at the molecular level is fundamentally important for the formation of the strategy for the management of patients with various diseases. At the same time, information about the mechanisms of the origin and course of purulent-septic complications is fundamentally important for finding effective ways of their diagnosis, prevention and treatment. In diseases accompanied by endogenous intoxication (EI), part of the albumin molecules in the blood of patients is blocked by toxins. As a result, two types of albumin molecules are present in their blood: normal (concentration X) and blocked by toxins (pathological) (concentration 1-X). Pathological albumin molecules lose their ability to perform their main functions, namely transport and detoxification. This allowed us to understand the processes of the origin and course of sepsis in the patients' bodies until their recovery. We have proposed the modified concept of the diagnostic and therapeutic approach to the

purulent-inflammatory diseases and sepsis. It consists in the installation of X_O – extremely minimal concentration of normal albumin in the blood of patients with sepsis. In the case of $X > X_O$, albumin molecules eliminate toxins in the patient's body. In the case of $X \leq X_O$, pro-inflammatory biomarkers (TNF-α, IL-1β and IL-6), which cause SIRS, are produced. At the same time, C-reactive protein (CRP) also appears, the synthesis of which is activated in the liver with the help of IL-6 [2]. The importance of CARS (compensatory anti-inflammatory response syndrome), which follows naturally the hyperinflammatory phase, was also emphasized. A number of biomarkers appear between SIRS and CARS. Their studies in dynamics could also provide the important information about the nature of changes of these markers in critically ill patients. In the case of presence of EI in the body HSA eliminates toxins, increasing the number of pathological albumin molecules.

Over the last twenty years, the diagnostic value of the method of fluorescence spectroscopy (MFS) was demonstrated in the study of fluorescence spectra (FS) of blood serum (BS) in clinical practice for the patients with purulent-inflammatory diseases and sepsis [3, 4]. The main characteristics that are used in the framework of MFS are the intensity of fluorescence $I_F(X)$ and the position of the maximum of the fluorescence band $\lambda_{max}(X)$ of the blood serum (BS) of patients, which are functions of the concentration of native albumin molecules and are expressed through the corresponding characteristics of native and "pathological" albumin molecules. Fig. 1 presents the results of research into the dynamics of the fluorescence spectra (FS) of the blood serum (BS) of a patient with a severe course of PE. The corresponding results for the patient with sepsis are also depicted in the same figure for comparison. This woman with PE had the complicated somatic and gynecological history and a long dry period. In the postpartum period, anemia, proteinuria, 3rd-degree vaginal cleanliness, expansion of uterine cavity according to ultrasound data were detected. So, she had risk factors for PE. In this patient, within the framework of MFS, a significant decrease of fluorescence intensity to 0.35 r.u. and a noticeable long-wavelength shift of the fluorescence band were detected (Fig. 1, curve 6.1). She underwent manual vacuum aspiration (MVA) of the walls of the uterine cavity. After this procedure and antibacterial and uterotonic therapy, the patient's condition improved. The choice of the optimal time for MVA was the very important moment. After the correction of the treatment, in the next experiment, a noticeable increase in the I_F of the BS of this patient was recorded up to 0.61 r.u. and the long-wavelength shift of the fluorescence band was leveled off. After that, the patient was discharged from the hospital in the satisfactory condition.

Otherwise, it is quite possible to reach a septic state. Let's illustrate in Fig. 1a another, more unfavorable, treatment scenario for the mentioned patient. Without correction of medical tactics (February 14), her condition could, in principle, worsen (Fig. 2, curve 6.2) with a further possible transition to a septic state (curve 3′), as in the person with sepsis presented in this Figure. In this case, MVA should be performed, antibacterial and anti-inflammatory treatment should be prescribed. Infusing 20 % solution of donor albumin (100–150 ml) should be prescribed every other day until the recovery. At the same time, the patient's state of health should be monitored within the framework of the MFS, as well as the correction of the treatment process. The treatment process of this patient was successfully completed (Fig. 2, curves 6.3–6.5). If on February 17, monitoring of the state of health and correction of the treatment process had not been carried out within the framework of the MFS, her health could have deteriorated significantly and there could have been no chance of recovery. Without the use of MFS, it would be difficult to treat successfully patients with similar and more severe complications of diseases.

If the possibility of monitoring the condition of patients within the framework of the MFS is not available, it is necessary to monitor their state of health, to prescribe infusions of solutions of donor albumin in the case of deterioration and to carry out etiotropic and symptomatic treatment. However, in this case, we cannot guarantee a successful end of the treatment process.

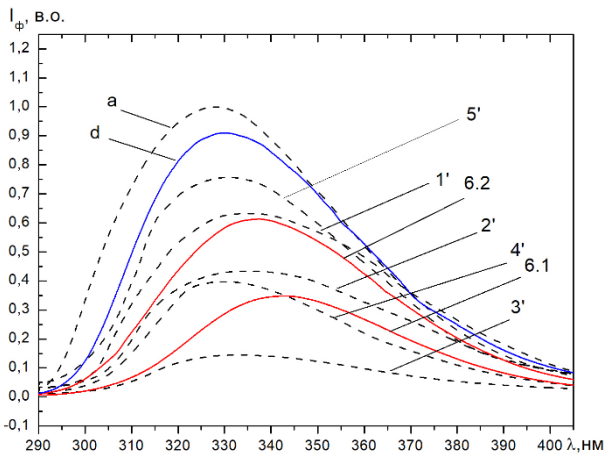

Fig. 1. Fluorescence spectra of blood serum of the woman with postpartum endometritis in dynamics (6.1 – 14.02.2015; 6.2 – 17.02.2015), a woman with uncomplicated course of the postpartum period (2), the person with sepsis (1′, 2′, 3′, 4′, 5′) and 20 % donor albumin (a) (λ^{ex} = 280 nm).

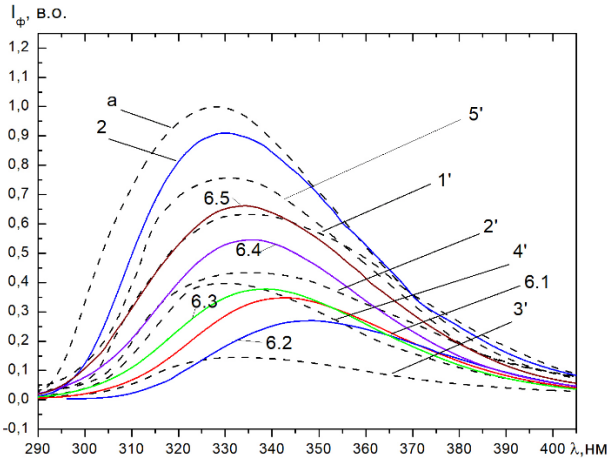

Fig. 2. Fluorescence spectra of blood serum of the women with postpartum endometritis in dynamics (6.1 – 14.02.2015; 6.2 – 17.02.2015, 6.3 – 20.02.2015, 6.4 – 22.02.2015, 6.5 – 25.02.2015), woman with uncomplicated course of the postpartum period (2), a person with sepsis (1′, 2′, 3′, 4′, 5′) and 20 % donor albumin (a) (λ^{ex} = 280 nm).

Conclusions. The significant improvement of the results of diagnostic of purulent-inflammatory diseases and sepsis is still the fundamental problem of medical science. Unfortunately, the most modern diagnostic methods are representative against the background of already manifesting manifestations of pathological processes. Basic research during the last decades has demonstrated that MFS was the most versatile method of biological spectroscopy. High sensitivity, accuracy, simplicity of fluorescent characteristics attract special interest to the fluorescent analysis as an important method of modern, and especially early diagnosis of purulent-septic complications.

Special attention within the framework of the MFS was paid to the study of spectral-fluorescence characteristics of BS of pregnant women and patients with postpartum purulent-inflammatory diseases. At the same time, in order to overcome EI in patients with a severe course of the disease, the effectiveness of the treatment of infusions with solutions of donor albumin was proven. An important condition for the effectiveness of the treatment process is constant monitoring within the framework of the MFS until its completion. A modern approach for diagnostic and effective control of treatment within the framework of MFS and biomarkers using infusions of donor albumin solutions is proposed.

References

1. Problems and challenges to women's reproductive health in the 21th century / O. Bulavenko, L. Ostapiuk, V.Rud et al. *Acta Scientific Women's Health Special Issue*. 2021. Spec. Iss. 3. P. 70–87. doi: 10.31080/ASWH.2021.SI.03.0012.
2. Faix J. D. Biomarkers of sepsis. *Crit. Rev. Clin. Lab. Sci*. 2013. Vol. 50, no. 1. P. 23–26. doi: 10.3109/10408363.2013.764490.
3. A prognostic model of the development of postpartum purulent-inflammatory diseases / O. Bulavenko, L. Ostapiuk, A. Voloshinovskii et al. *International Journal of Clinical Medicine*. 2022. Vol. 11, no. 2. P. 32–42. doi: 10.4236/ijcm.2020.112004.
4. Ostapiuk L. The Pathogenetic Concept of the Diagnostic-Treatment Approach for Patients with Purulent-Septic Complications. *International Journal of Clinical Medicine*. 2022. Vol. 13, no. 1. P. 1–21. https://doi: 10.4236/ijcm.2022.131001.

ФІБРОЗНО-КІСТОЗНА МАСТОПАТІЯ У ЖІНОК РЕПРОДУКТИВНОГО ВІКУ: ДИСФУНКЦІЯ ЯЙНИКІВ

Галишич Н. М.
м. Львів, Львівський національний медичний університет імені Данила Галицького

У сучасних умовах дисгормональні порушення в підлітковому віці у дівчаток обтяжені репродуктивним анамнезом, запальними змінами органів малого тазу, супутніми соматичними захворюваннями, що й стає причиною дисфункції яйників (ДЯ) серед жінок репродуктивного віку.