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ANGIOGENIC FACTORS IN WOMEN WITH EXCESSIVE MENSTRUATION IN PUBERTY

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Abstract. 10% of women with excessive menstruation in puberty in reproductive age are saved from heavy and prolonged menstruation. It is accompanied by increased expression of VEGF by 1.5 times and the development of excessive angiogenesis in the endometrium.

Key words: puberty bleeding, vascular endothelial growth factor.

Excessive menstruation in puberty (EMP) account for 50% of complaints girls-teenagers to the gynecologist. This pathology of puberty may be the first clinical manifestation of the emerging gynecological pathology [1, 2]. With timely treatment of EMP correct menstrual rhythm in reproductive age is set in 82.9% of patients, in 10% – heavy menstruation [3]. One of the components of the pathogenesis of endometrial hyperplasia and uterine bleeding in teenagers is a high level of IGF-1 in combination with decreased production of VEGF and activation of the hypothalamic-pituitary-adrenal system. In patients with oligomenorrhea and hyperandrogenic ovarian dysfunction by increasing the content of IGF-1 retained adequate production of VEGF, indicating that the stored angiogenic potential [4]. In women with EMP the rate of spontaneous abortion in early gestational period is reaches 4% [5].

The purpose of the study was to evaluate the angiogenic effects in women of reproductive age with EMP in the period of an implantation window.

Material and methods. The study included 60 patients, who were divided into two groups: the study group consisted of 30 patients with EMP, the control group - 30 patients with the correct timing of menstruation from menarche period. All patients had a two-phase menstrual cycle is established by ultrasound. Exclusion criteria were: overweight, obesity, early age at menarche (under 11 years), hyperandrogenism, confirmed by clinical and hormonal studies, diseases of the reproductive system organs, using oral contraceptives the last 3 months before the examination.

The concentration of vascular endothelial growth factor (VEGF) and its receptor (VEGF-R1, VEGF-R2) were determined in venous blood serum on 20-24 days of the menstrual cycle.

Mathematical and statistical analysis was performed by «Statistica 10.0». We calculated the arithmetic mean (M), standard error of the arithmetic mean (m). Evaluation of statistical significance was performed using the parametric Student's t-test.

The age of patients were between 19 and 32 years. The body mass index was 20.29 ± 0.44 kg / m² and 21.05 ± 0.41 kg / m² in groups respectively ($p > 0,05$). In the study group the chronic tonsillitis was observed in 20% of women, the thyroid disease in 7.1%, in the control group 5.7% and 1.4% respectively. The female infertility associated with anovulation and polycystic ovaries amounted to 2.9%. In The 10% of patients had heavy menstrual bleeding, they received hormonal treatment for the regulation of the menstrual cycle.

The results. In patients of the study group the concentration of VEGF was 314.15 ± 47.34 pg / ml, in the control – 209.06 ± 20.41 pg / ml ($p < 0,05$). With a high concentration of VEGF un the study group the expression of VEGF-R1 was not significantly different from the control group (137.18 ± 9.26 pg / ml versus 141.84 ± 5.09 pg / ml; $p > 0,05$). The expression of VEGF-R2 in patients of the study group was 10205.70 ± 332.82 pg / ml, and was within the control values (10084.07 ± 363.65 pg / ml). The angiogenic coefficient (VEGF / VEGF-R1) in the study group of patients was higher (2.36 ± 0.41) than in the control group (1.52 ± 0.15 ; $p < 0,05$).

Thus, in patients with EMP the expression of VEGF was higher than in the control group by 1.5 times ($p < 0,05$) and there was not differ in concentration of VEGF-R1. Perhaps the overexpression of VEGF in patients with EMP is the result of the hypoxic condition of the endometrium due to a heavy and prolonged menstrual bleeding, than in the control group and is aimed for strengthening the neoangiogenesis in the endometrium. As a result, the ratio of VEGF / VEGF-R1 is 1.5 higher than in the control group ($p < 0,05$) and indicates the formation of atypical angiogenesis.

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MORPHOLOGY OF INFLAMMATORY REACTIONS IN THE LUNG TISSUE WITH DRUG-RESISTANT TUBERCULOSIS

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Abstract. We studied the features of the structural and functional characteristics of tissue processes in the basin of the microvasculature in the lung tissue in patients with drug-resistant tuberculosis.

Material from 62 patients who died of fibro-cavernous pulmonary tuberculosis in hospitals of the Amur region was investigated. Groups are divided according to the type of drug resistance: I group - multidrug-resistant (43 people), II group -19 people with drug-sensitive saved.

A number of features, indicating a rapid, progressive course of the destructive tuberculosis in the lungs, with the most significant morphological changes were in patients suffering from drug-resistant pulmonary tuberculosis. In these patients, there was vastness and the prevalence of caseous necrosis and pronounced exudative alterative reaction in conjunction with a deep damage of the microvasculature.

Key words: tuberculosis, pathomorphology, drug resistant, inflammation.

Introduction. The phenomenon of drug resistance (DR) of the pathogen, which has a direct impact on the clinical manifestations and epidemiology of TB infection remains an urgent socio-economic, medical and public problem that requires urgent measures to further improve TB of [4.2]. To a large extent the development, course and outcome of the tuberculosis process depends on the non-specific reactivity of the organism, which ultimately determines the nature of the inflammatory response [1,3,5].

The character of morphological changes in the lung tissue is directly dependent on the severity of the manifestations of inflammatory response, which is associated with the severity of disease, determine the