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Immunological factors and miscarriage

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Abstract: This study aims to study the clinical condition of pregnant women with disturbed vaginal microbiocenosis, that is, complicated by bacterial vaginosis, during 2020-2024. 150 pregnant women who applied to the Gynecology Department of the multidisciplinary clinic of the Samarkand State Medical University, family polyclinic No. 3 and the Samarkand Regional branch of the Republican Specialized Center for Maternal and Child Health Scientific and Applied Medicine took part in the study. The control group consisted of 50 women who had an uncomplicated pregnancy. The results of the research serve for the in-depth study of problems related to bacterial vaginosis and its complications in pregnant women and the development of preventive measures.

Keywords: Immune system, Inflammation, Autoimmune diseases, Cytokines, T cells, NK cells, Antibodies, Endometriosis, Infection, Thrombophilia, Genetic factors, Immune response, Placental insufficiency, Immunodeficiency, Chorioamnionitis, Microbiome.

Introduction: Jahon Sog'liqni Saqlash Tashkiloti (JSST) ma'lumotlariga ko'ra, har yili 1 milliondan ortiq homilador qin mirobitsenozining buzilishi yoki bakterial vaginoz bilan asoratlanadi, bundaga sabab homiladorlik davrida gormonal fonning o'zgarishi tufayli bo'lishi ham mumkin. Dunyo miqyosda 14-49 yoshdagi ayollar orasida BV (bakterial vaginoz) ning umumiy tarqalishi 29,2% dan ortiqni tashkil etadi. Oq tanli ayollarda BV tarqalishi 23%, meksikaliklarda esa 32% ni, Afro-amerikalik ayollar orasida BV tarqalishi taxminan 51% ni tashkil etdi, bu esa juda yuqori ko'rsatkichdir [1,6,7].

Mamlakatimizda olib borilgan tadqiqotlar natijasida, Th1 ning faollashishi yallig'lanish oldi sitokinlarning - o'simta nekrozi omili alfa (FNO-α) va interleykinlar IL-1β, IL-2, IL-6, IL-8, IL-12, ishlab chiqarilishiga olib keladi va ularni rag'batlantiradilar, sitotoksik T-limfotsitlarning ko'payishi, yallig'lanish va immun reaktsiyalarida ishtirok etadigan makrofaglarni faollashtiradi. Th2 faollashishi natijasida yallig'lanishga qarshi sitokinlar ishlab chiqarilishi rag'batlantiriladi, trofoblast hujayralariga ta'sir qiladi (Axmadjonova G.M., Negmatshaeva X.N.,2023). homiladorlikni ko'tara olmaslikning rivojlanishini aniqlashda biokimyoviy xususiyatlarini tavsiflovchi (AFA, β2 –glikoprotein, volchankali antikoagulyant), regionar gemodinamika parametrlarining oshishi orqali namoyon bo'ladigan klinik belgilar va gemostaz tizimi (D-dimer) buzilishlarining asosiy xavf omillari aniqlangan va akusherlik asoratlarini klinikagacha tashxislash va bashoratlash usullari ishlab chiqilgan(Solieva N.K., 2022; Sultonova N.A.,2022);

Respublikamizda olib borilayotgan ustuvor siyosatlar natijasi o'laroq yosh olimlarning tadqiqotlarida reproduktiv yoshdagi ayollar salomatligiga e'tibor qaratilib, ularga davlatimiz tomonidan ko'rsatilayotgan yuksak e'tibor masalasi tibbiy va ijtimoiy jihatdan tahlil etilgan. Ma'lumotlarga ko'ra, Samarqand viloyati hududida qin mikrobiotsenozi buzilgan homilador ayollarda homilaning o'z-o'zidan tushishining uchrashi, hamda uning samarali va iqtisodiy qulay tashxislash usullari o'rganilmaganligi aniqlangan va ushbu yo'nalishda tadqiqotlarni amalga oshirish dolzarb, ilmiy-amaliy ahamiyatga ega hisoblanadi.

Goal of work to study the status of vaginal micro biocenosis, the course of pregnancy and its consequences in healthy women with a history of

miscarriage;

METHODS

During the years 2020-2024, pregnant women with disturbed vaginal microbiocenosis, i.e., complicated by bacterial vaginosis, with a history of miscarriage, at the Gynecology Department of the multi-network clinic of the Samarkand State Medical University, family polyclinic No. 3 and the Republican Specialized Maternal and Child Health Scientific and Applied Medical Center Pregnant women who applied to the Samarkand regional branch were involved in the study and 150 pregnant women were examined. The control group was made up of 50 pregnant women whose pregnancy was uncomplicated.

All pregnant women under observation underwent a complete clinical examination in the conditions of the above-mentioned treatment facilities. Based on subjective feelings, anamnesis, clinical and additional examination methods, a diagnosis of bacterial vaginosis was made.

The study of general blood analysis indicators (erythrocytes, platelets, leukocytes, hemoglobin, hematocrit index) was carried out using a hematological analyzer Mindray BC-5300 (Shenzhen Mindray Bio-Medical Electronics Co., Ltd. China.) in accordance with the requirements of clinical and hematological examination. 150 patients included in the study were subjected to complex quantitative real-time PTsR using Femoflor-16 reagents. The Femoflor-16 reagent kit is designed for the detection of DNA of opportunistic microorganisms, lactobacilli and human genomic DNA (biological materials were used for testing).

Statistical processing functions were included in the data obtained as a result of the research, statistical processing was performed on a Pentium-IV personal computer using the Microsoft Office Excel-2012 software package. Variational parametric and non-parametric statistical methods were used to calculate the arithmetic mean (M), standard deviation (s), standard error of the average (m), relative sizes (frequency, %) of the studied indicator, the statistical value of the obtained measurements was the normality of the distribution according to the kurtosis criterion, and error probability by examining the equality of principal variances (F – Fisher's test) (R) was determined by Student's (t) test. A confidence level of $R<0.05$ was accepted as statistically significant changes.

RESULTS

Since the onset of sexual life is important in pregnant women with impaired Qin biocenosis, we decided to study this indicator in women as well. Analyzing the gynecological anamnesis of the women involved in the study, we were convinced that women with a history of miscarriage, mainly medical abortions, spontaneous abortions, menstrual cycle disorders from gynecological diseases, chronic endometritis, and inflammatory diseases of the cervix and vagina suffered significantly more.

We examined 150 pregnant women in the general pregnant women with disturbed vaginal microbiocenosis included in our study and in the control group, they also examined microscopically the smear from the vagina and identified "primary cells" to determine whether there is dysbiosis.

The appearance of "primary cells" in the violation of the vaginal microflora can be associated with dystrophic changes in the vaginal mucosa and, in addition, a decrease in glycogen in the vaginal mucosa, desquamation of the epithelial layer, and increased adhesion of gram-negative microorganisms to these cells.

>10 leukocytes were found in 26.7% of pregnant women of group 1, and in 6% of control group. Leukocytes in the amount of 8-10 were equal to 39.2% in women with disturbed vaginal biocenosis, and 4% in the control group, respectively.

6-7 in the 1st group involved in the study and the control group; 0-5 leukocytes were found in 19.6% and 16%, 14.2 and 70%.

In our opinion, leukocytes in the vaginal smear should be evaluated not by their quantity, but by their functional activity, which requires further research. An increase in the number of leukocytes in the vaginal smear increases the transudation of leukocytes due to dystrophic changes in the vaginal mucosa, which leads to leukorrhea. Among the pregnant women involved in our study, gonococci and trichomonas causative agents were not detected.

Significant changes in the composition of the vaginal biocenosis were found in pregnant women involved in our study with a risk of miscarriage or inability to bear a fetus.

Significant changes in the composition of the vaginal microflora were found in pregnant women involved in our study, group 1, i.e., with a history of disturbed vaginal microbiocenosis, in comparison to the control group. The total bacterial mass in pregnant women in group 1 was 1.34% higher than Lg10 in the control group (6.4±0.25 vs. 8.6±0.13, respectively) $R<0.05$. The reason why the total mass of bacteria is more than the control group is represented by the presence of inflammatory processes in the genitals of women.

Lactobacittus spp listed in the table. when we

interpreted the content of Lg10, it was 6.2±0.25 in pregnant women of the control group, and 5.2±0.2 in group 1 (R<0.05). Enterobacteriaceae from aerobic microorganisms was equal to 3.0±0.16 in the control group, while it was 3.7±0.1 in group 1 (R<0.01). Among anaerobic microorganisms, Gardnerella vaginalis was detected in the ratio of 4.7±0.11 in the control group, and 8.6±0.21, respectively, and it was statistically reliable (R<0.001) It can be noted that Gardnerella vaginalis was 1.82 percent higher than the control group, Eubacterium spp. and 1.60 higher, Peptostreptococcus spp. we can see that the microorganism was 2.36% higher.

Among the groups, the occurrence of dysbiosis was 78.5% among the women of the 1st group, which was significantly higher than that of the women of the control group, and the frequency of occurrence in the control group was 10%. The incidence of anaerobic microorganisms was 7.14 and 4%, respectively, among the groups. Aerobic microorganisms were recorded in 3.57% of women of group 1. Anaerobic microorganisms were also not recorded in women of the control group. It was found in 35.7% of women of the 1st group of our study.

CONCLUSION

Thus, concluding our researches, monitoring the indicators of vaginal microbiocenosis allows us to evaluate the type of microorganisms, identify possible complications associated with vaginal microbiocenosis, monitor the effectiveness of treatment without waiting for the exacerbation of clinical manifestations, and assess their level in time.

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