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THE INTERRELATIONSHIP OF VAGINAL AND INTESTINAL MICROBIOMES IN WOMEN WITH MISSED ABORTION IN THE REPUBLIC OF UZBEKISTAN

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Research objective: To study the quantitative and qualitative composition of the vaginal and intestinal microbiome, as well as the correlation between them, in women with missed abortion in the Republic of Uzbekistan.

Research materials and methods: The study included 164 pregnant women aged 18 to 45 years. One hundred twenty women with missed abortion were enrolled in the main group. The control group included 44 women with clinically healthy, uncomplicated normal pregnancies. Their vaginal and gut microbiomes were analyzed for qualitative and quantitative parameters in real time using polymerase chain reaction via the Femoflor 16 and Colonoflor 16 methods. Correlation methods were used to compare similarities and differences between them. Specifically, the Spearman coefficient was used for quantitative assessment of correlation, and the Cheddak scale for qualitative assessment

Results: When examining the association between changes in the vaginal and intestinal microbiomes, they were found to occur together more reliably. In the main group, vaginal and intestinal dysbiosis co-occurred in 46.65% of cases. In the control group, normosenosis was predominantly observed (56.8%). When vaginal and intestinal dysbiosis occurred separately, they were reliably less common than when they co-occurred: vaginal dysbiosis was observed in 31.65% of cases, and intestinal dysbiosis in 7.5% of cases ($p<0.05$).

When vaginal and intestinal dysbiosis occurred together, the following microorganisms were more frequently detected in the vagina than in cases with only vaginal dysbiosis: Streptococcus spp. (vaginal and intestinal dysbiosis – 22.0%, only vaginal dysbiosis – 5.0%), G. vaginalis, Porphyromonas spp. (30.0%, 12.0%); Eubacterium spp. (46.7%, 26.0%); Megasphaera spp., Veillonella spp., Dialister spp. (32.0%, 14.0%); Lachnobacterium spp., Clostridium spp. (25.0%, 10.0%); Peptostreptococcus spp. (22.0%, 8.0%).

Conclusion: The research results showed a moderately strong positive correlation between Firmicutes bacteria in the vaginal and intestinal microbiomes and Staphylococcus spp. ($r = 0.32$, 95% confidence interval 0.16–0.47; $r = 0.34$, 95% CI 0.16–0.48) $p < 0.05$. When Candida spp. were examined, a strong positive correlation was found - $r = 0.64$, 95% CI 0.52–0.77; $p < 0.05$. A weak positive correlation was found for Lactobacillus spp. and Proteobacteria ($r = 0.2$ and $r = 0.22$, respectively; $p<0.05$).

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