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## Antagonistic and Immunomodulatory Action of Lactobacilli and Bifidobacteria in Cases of Intravaginal Staphylococcosis

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Developing alternative treatment methods for patients with uncomplicated urinary tract infections and vaginosis, is of the utmost concern. The newest probiotics based on representatives of the non-pathogenic lactic acid bacteria, that have antagonistic effects towards infectious diseases' causative agents and the ability to balance the immune response expressed — may become such drugs [1].

We characterized the following strains of lactobacilli and bifidobacteria: *Lactobacillus casei* IMV B-7280, *L. acidophilus* IMV B-7279, *Bifidobacterium animalis* VK1 and *B. animalis* VK2. It was found that these strains had *in vitro* antagonistic effects in relation to a wide range of pathogenic and opportunistic pathogenic microorganisms, including causative agents of infectious diseases of the urogenital tract. Furthermore, on the model of intact and *Staphylococcus aureus* infected mice, it was shown, that *in vivo* they significantly reduced the number of *S. aureus* colonies plated from the vagina of infected mice, effectively induced production of endogenous interferon and activated cells of the phagocytic system, without affecting the production of the proinflammatory cytokine tumor necrosis factor- $\alpha$ .

Thus, *L. casei* IMV B-7280, *L. acidophilus* IMV B-7279, *B. animalis* VK1 or *B. animalis* VK2 can be used for creating probiotic drugs effective in treating staphylococcosis and for immunity correction.

[1] C. E. Hoesl, J. E. Altwein, *The probiotic approach: an alternative treatment option in urology* **47**, (2005), p.288.