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ENDOMETRIAL POLYPOSIS-ASSOCIATED MICROECOLOGY OF THE VAGINAL MUCOSA

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ABSTRACT

Endometrial polyp is a benign lesions which appear in the uterine cavity. Exact causes of the endometrial polyps development are unknown. In recent times, there are publications about factors contributing the disease development, which include chronic inflammatory process in female genital organs.

Purpose Determine the vaginal and cervical microbiocenosis in women of reproductive age with endometrial polyps.

Materials and methods 60 women of reproductive age were examined, of whom 30 were women with endometrial polyps (main study group) and 30 were gynecologically healthy (control group). In all subjects general clinical investigations, ultrasound, gysteroscopy and bacterioscopic and bacteriological analyses, IEA and PCR were performed with the discharge from the vagina and cervical canal, and uterine cavity as a substrate.

Results and discussion The article describes the assessment of vaginal and cervical biotope aspects in women of reproductive age with endometrial polyps. Clinical studies data were evaluated.

Conclusions. Study data show that women diagnosed with endometrial polyposis have dysbiotic disorders of the vagina and cervix due to the reduction in number of indigenic and increase in opportunistic microflora and viruses.

Keywords: endometrial polyp, microflora of the vagina and cervical canal.

Today, the value of each pregnancy is steadily increasing, and infertility represents an extremely acute issue, which is often caused by intrauterine pathology [2, p.56; 5, p.88].

One of the most common pathologies of the uterine mucosa is endometrial polyp (EP). Recent studies suggest that EP are diagnosed in about 24-25% of the total population of women, and in recent years their occurrence is rapidly increasing. It should be noted that the occurrence of endometrial adenocarcinomas, which is one of the most common malignant diseases of the female genital organs, remains high and shows a trend to significant increase in many countries worldwide [1, p. 193]. High frequency of the relapses of endometrial hyperplasia, probability of their malignant transformation pose the need for improvement of the diagnosis of this pathology and rethinking of the current experience. [3, p. 19; 6, p. 331].

Despite the relatively high level of development of diagnostic methods, there is still no consensus on the origin of EP. One of the most common concepts of EP development is the inflammatory theory [7, p.76].

Normal vaginal biocenosis plays an important role in maintaining homeostasis and preventing infectious diseases of the genital organs [11, p. 24]. As you know, vaginal biocenosis is normally represented by permanent (indigenic, autochthonic) and transient (allochthonic, random) microflora, the proportion of which does not exceed 2-5% of the microbial pool. The indigenous microflora is represented mainly by *Lactobacillus* spp. (species of lactoflora grouped under the term "Doderlein's bacillus"), occupying 95-98% of the entire microbial mass [10, p.19]. The ability of lactobacilli for adhesion to epithelial cells, produce lactic acid, hydrogen peroxide and antibiotic-like substances creates a strong barrier and protection, inhibits reproduction of acidophilic bacteria, the growth of opportunistic microflora

and the emergence of infectious diseases of the internal genital organs [8, p. 271].

Goal. Determine the vaginal and cervical microbiocenosis in women of reproductive age with endometrial polyps.

Materials and methods. 60 patients aged 18-35 years were examined. Of them, 30 patients with endometrial polyps were included in the main group, 30 gynecologically healthy women formed the control group.

In the main group, the diagnosis was established based on the hysteroscopic examination and confirmed histologically. In healthy women, aspiration biopsy was used to obtain endometrial samples.

To study the quantitative composition of vaginal microflora, Femoflor test system was used, and also bacteriological study of vaginal and cervical canal secretions by the cultivation of aerobic and anaerobic microorganisms on special nutrient media, EIA and PCR were performed.

Statistical processing of the obtained data was performed using Microsoft Word 7.0 software.

Study results and their discussion. Analysis of the obtained data on vaginal microbiocenosis showed that in the main group normocenosis was determined only in 6 (20%) women; intermediate type — in 8 (26.7%) subjects; dysbiosis — in 10 (33.3%) women; vaginitis caused by fungi of the genus *Candida* spp. — in 4 (13.3%) patients; trichomonadic vaginitis — in 2 (6.7%) examined patients. *Chlamydia trachomatis* was also isolated from the cervical canal in women of the main group — in 4 (13.3%), *Mycoplasma genitalium* and *Ureaplasma parvum* — in 6 (20%) cases.

In vaginal dysbiosis a high content of following anaerobic microorganisms was determined: *Eubacterium* spp., *Prévotellabivia*, *Prévotellamelaninogenica*, *Prévotella intermedia*, *Atopobiumvaginae*, *Porphyromonas* spp., indicating mixed and anaerobic dysbiosis [Fig.1].

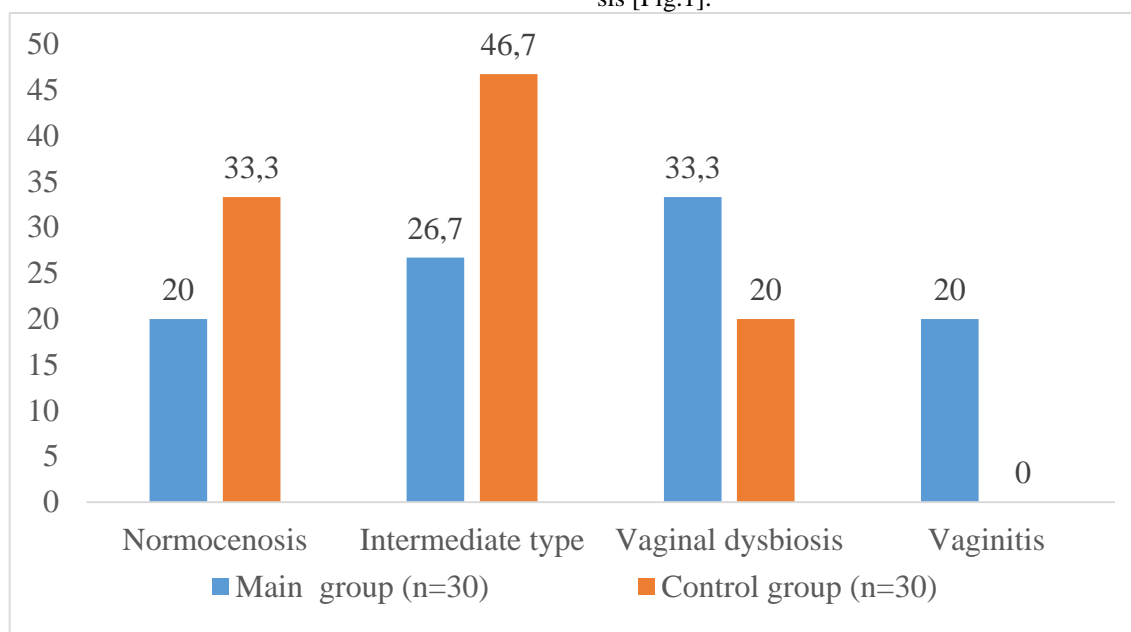


Fig.1.

Microscopic characteristics of vaginal biocenosis of examined women (according to E.F. Kira, 1994), (%).

In the control group vaginal normocenosis was registered in 33.3% of women, intermediate type — in 14 (46.7%) subjects, dysbiosis — in 6 (20.0%) subjects.

Women with endometrial polyps were most often diagnosed with herpes simplex virus type 1/2 — in 12 (40%) cases. Also, Epstein-Barr virus was isolated in 1 (3.3%) woman, cytomegalovirus - in 4 (13.3%), HSV in 10 (33.3%) patients of the main group. In 4 (13.3%) women of the control group, viral infections were represented only by herpes simplex viruses of type 1/2, which indicates a significant difference between the control and the main groups.

Taking into account the fact that the cervix is the first barrier to ascending infection, we conducted bacteriological investigations of the cervical canal secretions using PCR and bacterial swab test using aerobic

and anaerobic tests. Data analysis showed that in 24 (80,0%) patients with endometrial polyps a wide spectrum of viral and bacteriological associations of microorganisms of the cervical canal was observed, with prevalence of 2-3-component content. Particular attention is drawn to the presence of such species of aerobes as *Prevotella* spp., *Atopobiumvaginae*, *Veilonella* spp., *Peptostreptococcus* spp. and such anaerobes as *Streptococcus* spp., *E.Coli*. It should be noted that decrease in bacterial concentration (10^2 - 10^3 CFU/ml) vs. vaginal biotope was observed. In women in the main group following microorganisms were found: *Chlamydia trachomatis* — in 4 (13,3%) cases, *Mycoplasma genitalium* and *Ureaplasma parvum* — in 6 (20%) cases, and *Candida albicans* — in 6 (20%) cases [Fig. 2].

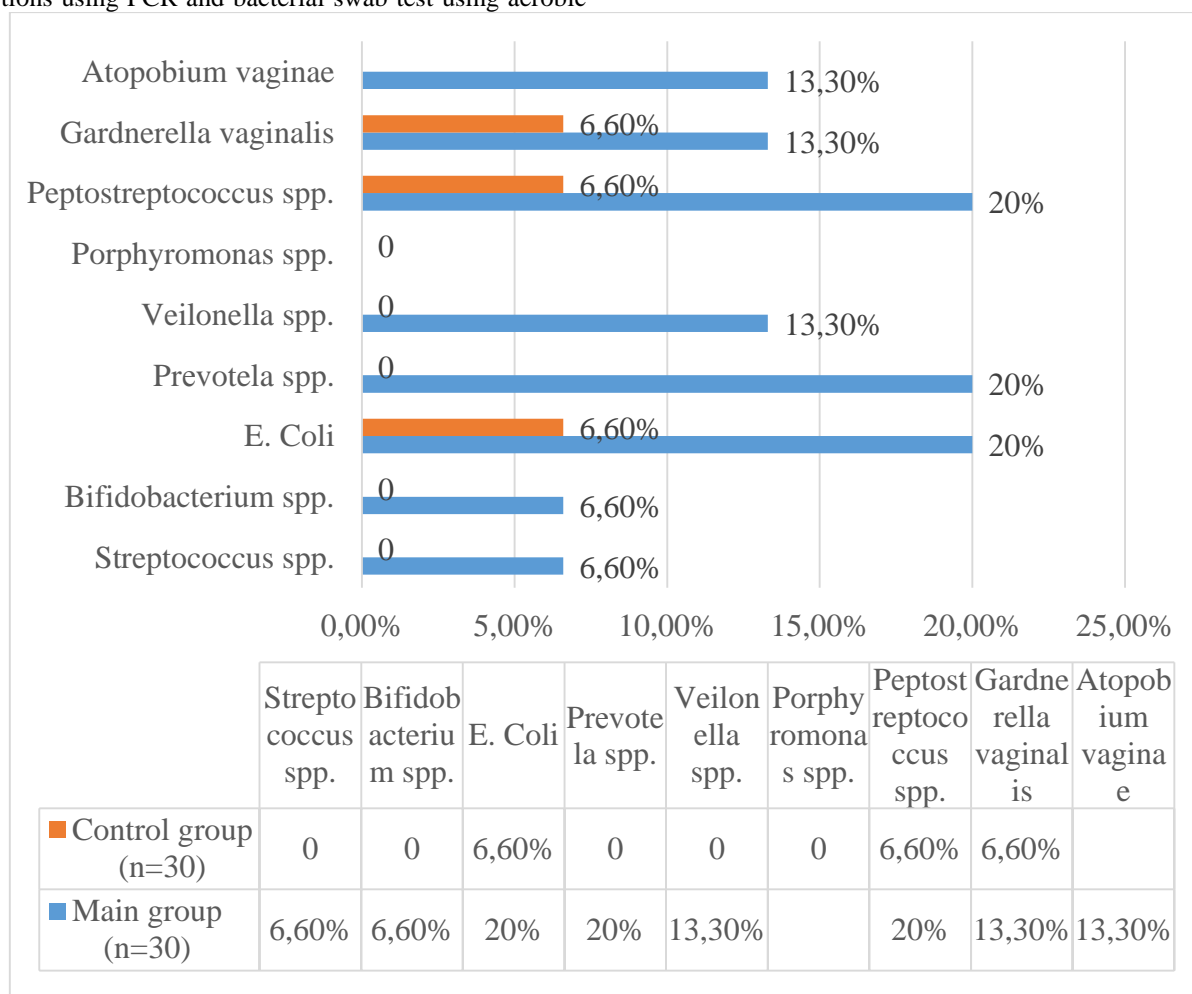


Fig. 2. Bacterial structure of the cervical canal content according to the results of bacteriological analysis (%).

Of viral infections, most common are type 1 and 2 herpes simplex virus — in 12 (40%) patients in main and 4 (13,3%) women in control groups, which indicates a reliable difference between control and main groups. Also in cervical canal secretion of women with

endometrial polyps Epstein-Barr virus was isolated in 8 (2,6%) cases, cytomegalovirus — in 4 (13,3%) cases, HPV 33 — in 4 (13,3%) cases, HPV 35 — in 2 (6,6%) cases, HPV 18 — in 4 (13,3%) cases [Fig.3].

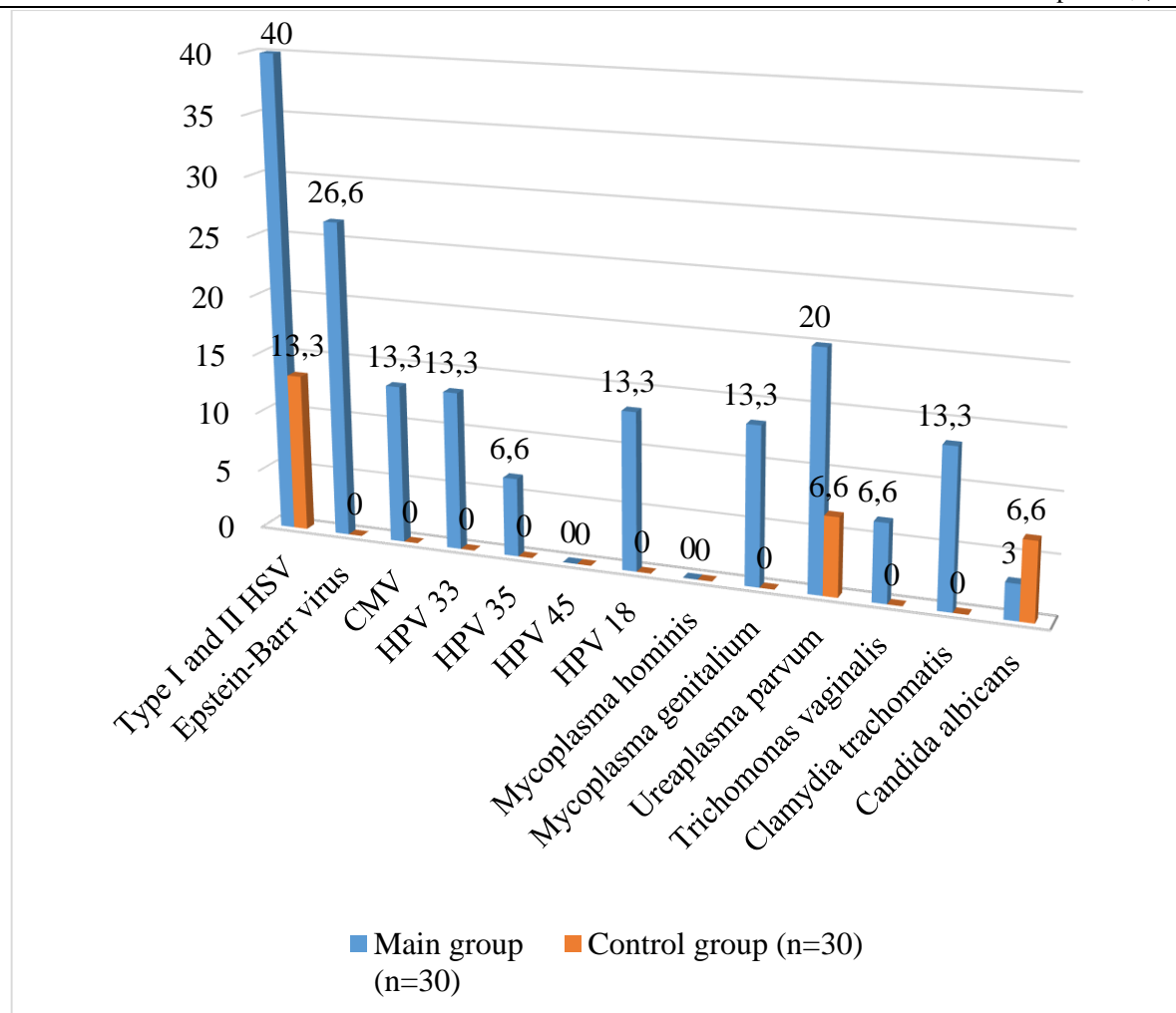


Fig. 3. Viral and bacterial structure of the cervical canal secretion according to the PCR results (%).

Conclusions:

Study data show that women diagnosed with endometrial polyposis have dysbiotic disorders of the vagina and cervix due to the reduction in number of indigenous and increase in opportunistic microflora and viruses.

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