

LEUKOPLAKIA ON THE BACKGROUND OF HORMONAL CHANGES

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✓ *Resume,*

A survey of sick women with leukoplakia of the bladder who underwent inpatient treatment in the urology department of the clinic of Andijan State Medical Institute was conducted. Among the infectious agents determined by the polymerase chain reaction method, in the examined patients. When studying the level of hormones in blood plasma, a significant decrease in the secretion of estrogen level was revealed, which is associated with the use of 79 (69%) patients with combined oral contraceptives for contraception and for the purpose of restoring an irregular menstrual cycle. Thus, we believe that the presence of viral infection and hormonal imbalance should also be considered as etiopathogenetic factors in the development leukoplakia disease.

Keywords: bladder, leukoplakia, metaplasia, polymerase chain reaction, hormone, estrogen, blood plasma, contraception, viral infection.

ГОРМОНАЛ ЎЗГАРИШЛАР ФОНИДАГИ ЛЕЙКОПЛАКИЯ

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✓ *Резюме,*

Андижон давлат тиббиёт институти клиникаси урология бўлимида сийдик пуфаги лейкоплакияси билан стационар даво олаётган аёлларда текширувлар ўтказилди. ПЦР текшируви усулида асосий эътибор бу аёлларда вирусли инфекция бор ёки йўқлиги қаратилди. Бу беморларда қон плазмасидаги гормонлар миқдори кескин камайганлиги аниқланди ва анамнезларга асосланган ҳолда уларнинг ичида 79 (69%) аёллар орал контрацепция моддаларидан фойдаланганлиги аниқланди. Шу юзасидан юқоридаги текширувларга асосланиб биз бу аёлларда сийдик пуфаги лейкоплакиясини этиологик омиллари бўлиб гормонал фони бузилиши ҳамда вирусли инфекцияни иштироки борлигини аниқладик.

Калит сўзлар: Сийдик пуфаги, лейкоплакия, метаплазия, полимераз занжирли реакция, эстроген, гормон, қон плазмаси, контрацепция, вирусли инфекция.

ЛЕЙКОПЛАКИЯ НА ФОНЕ ГОРМОНАЛЬНЫХ ИЗМЕНЕНИЙ

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✓ *Резюме*

Проведено обследование больных женщин с лейкоплакией мочевого пузыря, проходивших стационарное лечение в отделении урологии клиники Андижанского государственного медицинского института. Среди инфекционных агентов, определяемых методом полимеразной цепной реакции, особое внимание было обращено на наличие вирусной инфекции у обследуемых больных. При исследовании уровня гормонов в плазме крови у выявлено достоверное снижение секреции уровня эстрогенов, что связано с применением больными 79 (69,3%) комбинированных оральных контрацептивов в целях контрацепции и с целью восстановления нарушенного менструального цикла. Таким образом, мы считаем, что к этиопатогенетическим факторам в развитии заболевания лейкоплакии следует относить также наличие вирусной инфекции на фоне нарушения гормонального фона.

Ключевые слова: мочевого пузыря, лейкоплакия, метаплазия, полимеразная цепная реакция, гормон, эстроген, плазма крови, контрацептив, вирусная инфекция.

Relevance

Currently, in clinical practice, there is the concept of squamous metaplasia and epithelium of the bladder mucosa (morphological) and a narrower concept (clinical) - leukoplakia [2, 6, 10, 17, 23]. The latter is applicable to patients with squamous metaplasia and with apoptosis, keratinization and the formation of typical plaques. [11,30,31].

According to modern data, leukoplakia of the bladder is a poliethyology - a disease based on many predisposing factors [7, 11, 22, 25, 26].

In the etiology of bladder leukoplakia, two main groups of factors are distinguished: exogenous (infectious, traumatic) and endogenous (hormonal homeostasis disorder) [5, 7, 8, 14, 32].

According to many authors, the most common factor in the development of bladder leukoplakia is the presence of urinary tract infections. [5, 8, 13, 15, 22, 29]. It is known

that uncomplicated urinary tract infections are one of the most common diseases of women of reproductive age [13, 14, 18, 26, 28, 29]. During the year, at least one episode of lower urinary tract infection occurs in 25-35% of women aged 20-40 years.

Most authors believe that bladder leukoplakia constantly proceeds in combination with chronic cystitis [13, 14, 26]. Moreover, the number of patients increases with increasing age. According to other authors, leukoplakia of the bladder itself is a histological form of chronic cystitis, thereby confirming modern judgments about the most stable form of the existence of stratified squamous epithelium among epithelial tissues [2, 23, 29, 30]. It should be noted that in almost all published works, the symptoms of leukoplakia are identified with symptoms of chronic cystitis. Unlike patients with chronic cystitis; in patients with leukoplakia - there is a constant feeling of heaviness in the bladder, dull pains over the pubis, perineum, inguinal areas, on the eve of the vagina, pain and prolonged cramping, both during and after urination [6, 10, 16].

The theory of viral genesis is currently gaining many supporters [1, 19, 20, 25, 29]. The human papilloma virus contributes to a change in the function of epithelial cells, which leads to the growth of sections of the mucous membrane and the formation of genital warts.

The development of bladder leukoplakia can be caused by prolonged mechanical, chemical, and thermal irritations (stone, foreign body, infectious agents, carcinogens, radiation) [7, 13, 16, 18], as well as traumatic effects on the bladder wall due to intravesical manipulations, such as catheterization of the bladder after surgery, catheterization of the bladder to collect urine culture [11, 12, 14].

In the 70s of the last century, the theory of hormonal development of leukoplakia began to take shape [3, 16, 17, 24, 27]. It should be noted that under the influence of hormonal factors, the formation of squamous metaplasia occurs [27, 30, 32]. According to some authors, as a result of functional changes in the hypothalamus-pituitary-ovary-uterus system, the ovulation process is disrupted. Violation of ovulation is the result of relative or absolute hyperestrogenism and progesterone deficiency, leading to the development of hyperplastic processes in target organs, which include the bladder [16, 24, 32].

Objective: To identify the most frequent predisposing etiological factors of bladder leukoplakia.

Material and methods

In order to fulfill the assigned tasks, 45 women with various stages of bladder leukoplakia were selected from the number of patients hospitalized in the urology department of the clinic of Andijan State Medical Institute named after Y. Otabekov from 2016 to 2019.

Indications for the examination were complaints of patients with a constant feeling of heaviness in the bladder, both when it is full and in the absence of urine in the bladder, pain and prolonged cramping after urination, discomfort or burning sensation over the pubis, perineum, inguinal regions and on the eve of the vagina.

Patients were divided into three groups depending on the biopsy data.

The results of the study:

Given the role of infection in the development of bladder leukoplakia, all patients underwent a comprehensive microbiological study, including urine culture on the flora

to determine the sensitivity of the isolated microorganisms to antibiotics and a polymerase chain reaction to determine the herpes simplex virus and human papillomavirus, which may be etiological development factors leukoplakia.

It should be noted that when urine was examined for microflora in 28 (24%) cases, uropathogens from the group of intestinal bacteria were sown in small concentrations in patients, and there were no significant differences in the groups of patients. In 6 (5.3%) patients, a combination of uropathogenic flora was revealed. In this regard, patients required etiotropic antibacterial therapy.

When choosing an antibacterial drug, the following criteria were taken into account: the spectrum of antimicrobial activity, the level of antibiotic resistance in this region, the pharmacokinetics of the antibiotic, safety profile, pharmacoeconomic assessment of the regimen, the results of comparative randomized trials proving the effectiveness of the drug.

It should be noted that the herpes simplex virus type was detected in 8 (17.7%) patients with leukoplakia of the bladder and human papilloma virus in 4 (9%) patients, respectively. There were no significant differences in the frequency of detection of the virus in the examined groups, and in 3 (6.6%) patients from all patients, a viral infection (herpes simplex virus type 2 HSV-II) was detected for the first time, and in 9 (20%) women it was diagnosed earlier, which confirms the participation of a viral infection in the etiology and pathogenesis of this disease and requires appropriate treatment.

All patients with bladder leukoplakia who were diagnosed with a viral infection were given antiviral therapy. When other pathogens were identified (Ureaplasma urealyticum, Chlamidia trachomatis, Micoplasma hominis, Micoplasma genitalium, Gardenerela vaginalis), etiotropic antibacterial therapy was performed. When evaluating the effectiveness of treatment, the main criterion was a negative PCR (polymerase chain reaction) test, which was carried out 20 days after the end of taking the drugs.

A study was made of the hormonal status of patients.

Due to the fact that one of the factors leading to the development of bladder leukoplakia is hormonal imbalance, special attention was paid to the data on the use of combined oral contraceptives, both for contraception and for the treatment of hormonal disorders, when collecting the medical history of the disease. It is known that prolonged use of oral contraceptives can lead to hormonal imbalance in the form of hypoeestrogenism, due to which, the transition of the bladder epithelium from transitional to multilayer flat is possible. Data on the frequency and duration of the use of combined oral contraceptives are presented in table 1.

The duration of the use of combined oral contraceptives in the studied groups was significantly different and averaged from 5 to 24 months.

When studying the level of hormones in blood plasma in 5 (25%) patients of group I, in 2 (20%) of patients of group II and in 7 (46%) of women of group III, a significant decrease in the level of estrogen secretion was revealed, however, when comparing these parameters in patients all groups revealed no statistically significant differences. When analyzing individual indicators of the level of follicle-stimulating hormone (FSH) and prolactin (PRL), the latter were within normal limits.

In all likelihood, a decrease in estrogen in the blood is associated with the use of combined oral contraceptives by individual patients for contraception and in order to restore an irregular menstrual cycle. Combined oral

Table 1.

Distribution of patients with bladder leukoplakia in the examined groups according to the duration of taking combined oral contraceptives (COC)

Patient groups	Duration of use of COCs (in months)				COCs not used	Total
	to 5	5-12	12-24	Over 24		
Group I	4	6	2	-	8	20
Group II	1	-	5	-	4	10
Group III	1	2	6	2	4	15
Total	6	8	13	2	16	45

contraceptives were used by 20 (44%) women from the total number of examined patients.

However, the determination of the hormone content in blood serum by itself does not always provide an adequate assessment of the functional state of the endocrine system, since it does not take into account the content of steroid-binding globulins and albumin, as well as the state of the receptor link of the reproductive system, that is, the ability of target organs to perceive or other concentrations of hormones.

Conclusions

Among the infectious agents determined by the polymerase chain reaction method, special attention was paid to the presence of viral infection, as one of the most important links in the etiology and pathogenesis of bladder leukoplakia, which confirms the participation of viral infection in the etiology and pathogenesis of this disease and requires appropriate treatment - inclusion antiviral preparations.

When studying the level of hormones in blood plasma, a significant decrease in the secretion of estrogen levels was revealed, which is associated with the use of 79 (69.3%) patients with combined oral contraceptives for contraception and in order to restore an irregular menstrual cycle.

Thus, we believe that the presence of viral infection and hormonal imbalance should also be attributed to etiopathogenetic factors in the development of leukoplakia.

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