

Treatment of Women with Mild Dysplasia of Stratified Squamous Epithelium of the Cervix

Mirzaeva Yu. K.

Republican Specialized Scientific and Practical Medical Center for Maternal and Child Health, Tashkent, Uzbekistan

Abstract The effectiveness of vaginal suppositories containing turmeric has been shown. Pavisin suppositories have immunomodulatory properties; contribute to the normalization of cytokine status; reduce the frequency of LSIL/CIN I in Pap smears by 3.3 times; by 3.5 they reduce the frequency of HPV in a smear.

Keywords Mild dysplasia of the stratified squamous epithelium of the cervical mucosa, Treatment, Vaginal suppositories

1. Introduction

The problem of early diagnosis and treatment of pathological conditions of the cervix currently remains relevant [1,3]. Globally, cervical cancer is the fourth most common cancer in women, with approximately 660,000 new cases in 2022. That same year, about 94% of the 350,000 deaths caused by cervical cancer occurred in low- and middle-income countries [3].

The highest rates of cervical cancer incidence and mortality are found in sub-Saharan Africa, Central America and Southeast Asia. Regional differences in the burden of cervical cancer are associated with inequalities in access to vaccination, screening and treatment services, risk factors including HIV prevalence, and social and economic determinants such as gender, gender bias and poverty [2].

In recent years, a fundamentally new strategy for the prevention and treatment of precancerous diseases of the cervix has been emerging, based on a more accurate understanding of the etiology and mechanisms of development [1,2]. It has been established that some plants, vegetables, fruits contain compounds that stop the development of tumors [3].

Turmeric is one of the most powerful natural healing agents with powerful antitumor, antioxidant and anti-inflammatory effects [4,5]. Pavisin vaginal suppositories containing turmeric oil have appeared on the market [6,7].

Purpose of the study. to study the effectiveness of Pavisin vaginal suppositories in the treatment of mild dysplasia of the stratified squamous epithelium of the cervical mucosa.

2. Material and Research Methods

The study included 125 patients of reproductive age from

30 to 46 years with a PAP test result of LSIL/CIN I - mild intraepithelial lesion.

Exclusion criteria from the study: acute and subacute infectious and inflammatory diseases; the presence of sexually transmitted diseases, except for the human papillomavirus, malignant diseases of the cervix, bleeding from the genital tract.

The patients were divided into 2 groups: group 1 included 50 patients who were prescribed Pavisin vaginal suppositories, 1 suppository at night for 14 days from the 5th day of the cycle for 3 months. The 2nd group of women, consisting of 75 patients, was not prescribed anything.

In addition to a gynecological examination and ultrasound, patients in both groups underwent an extended colposcopy, PAP test, and HPV determination 1.5-2 months after the last suppository. Some parameters of the immune status were also studied: IL-2, IL-4, a - TNF, a - INF, y - INF, IL-1b and IgA in the blood serum of women by ELISA using the Vector - Best test systems, Russia. The control group consisted of 10 practically healthy women.

Colposcopy data were interpreted according to the International Classification of Colposcopic Terms adopted at the VII World Congress of Colposcopy in 1990 (Rome) and updated by the International Association of Cervical Pathology and Colposcopy in 2002. (Barcelona).

3. Research Results and Discussion

Analysis of the generative function of the examined women showed that most patients had a history of more than 2 births. 92(73.6%) women were multipregnant and multiparous. About 5% of patients complained of primary infertility. Every second patient suffered from various inflammatory diseases of the uterus and appendages - 65 (52%). Uterine fibroids and adenomyosis were verified in 19 (15.2%) patients. A month after 3 courses of pavisin, all subjects in both groups underwent an extended colposcopy, as well as a cytological

examination of smears stained using the Papanicolaou method.

In the group of patients taking pavisin, LSIL/CIN I was verified 3.3 times less often and HPV was diagnosed 3.5 times less often compared to the group in which no treatment was carried out (Table 1).

Table 1. Results of laboratory methods for examining patients with LSIL/CIN I

Groups of surveyed	Examination period	LSIL/CIN I		HPV+	
		abs.	%	abs.	%
1 group n= 50	Before prescribing pavisin	50	100	38	100
	After using pavisin	11	22,0	8	26,1
2 group n= 75	Before watchful waiting	75	100	59	100
	After the end of watchful waiting	54	72,0	54	91,5

Analysis of the data obtained showed that the immune system in women with LSIL/CIN I triggers the Th2 mechanism of the immune response pathway and activates antiviral and antitumor protection. Thus, before treatment, the concentration of a-INF was 4.27 ± 0.24 pg/ml versus 0.45 ± 0.24 pg/ml in the control ($p < 0.05$), while after the use of Pavisin suppositories there was a significant decrease to 1.83 ± 0.42 pg/ml.

The content of IL-1 in the blood serum of women before treatment was 1.7 ± 0.2 pg/ml, which is significantly higher than the control group 0.0019 ± 0.0008 pg/ml ($p < 0.05$), after treatment its level decreases up to 0.23 ± 0.08 pg/ml. The level of IL-4 in women with HPV was 2.75 ± 0.22 pg/ml versus 0.58 ± 0.2 pg/ml in the control group ($p < 0.05$), and a decrease was also observed after the use of pavisin. The content of a-TNF in the blood serum of women before treatment was 0.3 ± 0.1 pg/ml, and after treatment 0.25 ± 0.08 pg/ml compared with the control group 0.04 ± 0.004 pg/ml, significant no differences were found. Despite the fact that TNF-a is a pro-inflammatory cytokine and exhibits selective cytotoxicity against some tumor cells and has antiviral activity, the “silence” we observed is apparently associated with an increase in IL-4, which has the property of suppressing the production of TNF-a. The levels of IL-2 in all observation groups also did not change; in all likelihood, this fact indicates a chronic form of the disease, since it is known that the content of IL-2 in the peripheral blood increases significantly in the earliest stages of exacerbation of the disease, decreasing to normal levels in the height of the disease.

Particular attention is paid to the study of γ -INF, which has antiviral and tumoricidal activity. Activates cells of the immune system, namely natural killer cells, suppresses tumor growth and virus reproduction in cells. It also suppresses the

production of a-TNF and enhances activity against a-INF viruses, which is what we observed in this study. Also, γ -INF includes the synthesis of IgA by B-lymphocytes. Significant differences were revealed between the indicators of patients before treatment and the indicators of the control group - 5.45 ± 0.05 pg/ml, 0.25 ± 0.15 pg/ml, respectively, and after treatment 5.19 ± 0.38 pg/ml. An increase in IgA content was observed in patients of group 2 295.67 ± 79.8 IU/ml versus 202.72 ± 18.18 IU/ml in the control group and $p < 0.05$ and a decrease to 140.4 ± 15.3 IU/ml after treatment.

4. Conclusions

The results showed that Pavisin vaginal suppositories have proven immunomodulatory properties; contribute to the normalization of cytokine status; reduce the frequency of LSIL/CIN I in Pap smears by 3.3 times; 3.5 lowers the frequency of HPV. The results obtained dictate the need to prescribe Pavisin vaginal suppositories to patients with LSIL/CIN I and HPV in the cervical smear.

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