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PROTEFRLAZID IN THE TREATMENT OF PAPPILOMAVIRUS UROGENITAL INFECTIONS

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ABSTRACT

Proteflazid is a highly effective antiviral and immunocorrecting drug. Proteflazid affects the elimination of a pathogen from the body and prevents disease recurrence. These properties allow to widely use the drug in combination treatment of papillomavirus urogenital infections.

Key words: papillomavirus urogenital infection, the drug Proteflazid, biologically active substances, female genitals.

Human papillomavirus (HPV) infection may cause both clinical and subclinical diseases of the genital organs. The clinical forms include various types of genital warts that affect the vulva, vagina, cervix and anus. HPV infections are frequently (60%) combined with interepithelial neoplasia. Moreover, certain types (16 and 18) of human papillomavirus penetrating into the cervical area promote the development of cervical carcinoma [1, 2]. On the basis of clinical and morphological and molecular-biological study results, the following forms of HPV infection manifestations are found: latent infection, condyloma acuminata, flat condyloma, micropapillary and inverted condylomas [3, 4]. In most patients, PVI develops due to infection transmitted through sexual intercourse with an infected person. The incubation period varies from 3 weeks to 9 months. Transmission of the virus occurs in 46-67% of cases. PVI development involves several stages: — primary infection with virus localization in a limited anatomic area; — persistence of the viral genome in episomal form accompanied by the production of viral particles during the differentiation of epithelial cells; — oncogenic processes as a result of interaction between the viral oncogenes and cell regulatory proteins after integration of viral DNA into their genome.

Surgical lasers, methods of electrocoagulation and cryodestruction are traditionally used in treatment of PVI with clinical manifestations. Drugs that cause a chemically induced necrosis of exophytic manifestations are therapeutically used (Solcoderm, Collomak, Ferezol, etc.). Proteflazid, a drug in the form of a liquid alcohol extract obtained from wild grasses *Deschampsia caespitosa L*. and *Calamgrostis epigeios L*., was used in this study. The main biologically active substances in Proteflazid are flavonoids similar to quercetin (rutin). Their molecular basis is flavonoid oxygen-containing heterocycle. Flavonoids are natural phenol compounds. The difference between spectrum of flavonoids contained in Proteflazid and in quercetin is the presence of different radicals in the aromatic portion of the molecule. The substances of Proteflazid differ from rutin in the glycosylation degree, the binding location of carbohydrate residues, their nature and the configuration of glycosidic bonds. Specific drug properties are determined by the fact that pharmacologically there is not one flavonoid in the body, but there is an effect of a biochemical transformation system with the presence of highly active intermediate products of radicals.

When administered orally, the drug is absorbed partially inside the stomach and the small intestine; a small amount is broken down during the initial liver passage; the main part is distributed in

organs and tissues and penetrates into viral infected cells. When administered orally, the drug flavonoids are metabolized completely. No trace amounts of flavonoids are detected in urine or feces. The terminal half-life in adults ranges from 5 to 9 hours due to the drug administration three times a day. Proteflazid has an antiviral activity due to the blocking of virus-specific enzymes (thymidine kinase, DNA polymerase). The drug is an inducer of endogenous α- and γ-IFN synthesis; it has an apoptosis-modulating and antioxidant activity [6].

The study objective was to evaluate the efficacy and safety of Proteflazid administration in women with clinical HPV infection manifestations. The study included 12 women with clinical HPV infection manifestations. Women age ranged from 23 to 36 years. Localization of condylomas was different: 7 patients (58.3%) — in the area of the vulva, 5 patients (41.7%) — in the area of the vulva and in the vagina.

All patients underwent a complete examination: the method of polymerase chain reaction (PCR) with determination of the virus type: 16 and 18 as well as 31 and 33, bacteriologic examination of urethral and vaginal discharge, ELISA of blood serum for STD, pelvic ultrasound. In addition, the most patients were diagnosed with other genital infections: trichomoniasis, clamidiosis. They underwent conventional etiotropic therapy. All women included into the study after diagnosis received Proteflazid according to the scheme: week 1 — 5 drops 3 times a day; week 2 and week 3 — 10 drops 3 times a day; week 4 — 8 drops 3 times a day; week 5-week 8 — 10 drops once a day. The drug was recommended to take an hour after eating. Along with the drug intake, the topical therapy with Solcoderm (Switzerland) was performed according to the manufacturer's recommendations until the complete mummification of tissue-plus followed by scab rejection. Condylomas located in the vagina were surgically removed. [7].

The main features of the disease, the relationship between the onset and the flow of a specific process, the severity of the clinical picture, disease duration and recurrence rate were analyzed when considering the obtained clinical results. Studies have shown complete clinical recovery immediately after the end of treatment in 91.7% (11) of cases. After 3-month treatment, no disease recurrence was observed in all patients; PCR results were negative in 83.3% (10) of patients without clinical manifestations. Proteflazid contributes to elimination of leucopenia, neutropenia and thrombocytopenia confirmed by the peripheral blood picture. There were no adverse side effects and allergic reaction to Proteflazid.

Thus, Proteflazid has an antiviral and immunocorrecting action. It is highly effective in combination therapy of patients with papillomavirus urogenital infection due to the fact that it significantly affects elimination of pathogens from the body and successfully prevents the disease recurrence.

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ТҮЙІН

Папилломавирусты урогениталдық инфекциялар еміндегі протефлазид

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Протефлазид — эффектілігі жоғары, вирусқа қарсы, иммунокоррекциялық дәрілік зат. Қоздырғыштардың ағзадан шығарылуына әсер етіп, аурулардың қозуына алдын алады. Осыған орай, папилломавирусты урогениталдық инфекцияның комплексті емінде кең қолдануда.

SUMMARY

Proteflazid in papillomavirus urogenital infection therapy

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Proteflazid has high immunomodulatory and antiviral efficacy. Proteflazid influences on elimination of causative agent from the organism and prevents disease recurrence. These data allow to use it widely in complex therapy of papillomavirus urogenital infection.