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Multiple recurrent condylomata acuminata of the penis

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ABSTRACT

Condylomata acuminata of the penis are a type of anogenital venereal warts characterized by exophytic growths on the skin of the external genitalia and the mucosa of the urethra. They are caused by human papillomavirus (HPV) types 6, 11, 16, 18, 31, 33, and 35, with types 6 and 11 being the most pathogenic. The virus is primarily transmitted sexually, entering the bloodstream through mucosal or skin defects during unprotected intercourse. The presented clinical case highlights the necessity of combining surgical treatment with local and systemic pharmacotherapy in a young patient with multiple recurrent condylomata acuminata of the glans and foreskin that were resistant to conservative treatment. A combination of prolonged antiviral therapy and topical application of podophyllotoxin proved insufficient, leading to widespread penile involvement. Persistent disease progression was attributed to infection with HPV type 6. The surgical intervention included circumcision, frenuloplasty, excision of residual warts on the glans, and electrocauterization of affected skin areas, followed by antiviral therapy with interferon, which resulted in complete clinical recovery. No recurrence was observed within six months.

Keywords: condylomata acuminata; human papillomavirus; circumcision; antiviral therapy.

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Множественные рецидивирующие остроконечные кондиломы полового члена

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АННОТАЦИЯ

Остроконечные кондиломы полового члена — это разновидность аногенитальных венерических бородавок, характеризующихся появлением экзофитных разрастаний на коже наружных половых органов и слизистой оболочке мочеиспускательного канала. Они вызываются вирусами папилломы человека 6, 11, 16, 18, 31, 33 и 35-го типов, среди которых наиболее патогенны типы 6 и 11. Вирусы передаются преимущественно половым путем, попадая в кровь через дефекты в слизистой оболочке или коже при незащищенном половом акте. Описанное клиническое наблюдение указывает на необходимость сочетания хирургического лечения, местной и системной лекарственной терапии на примере молодого пациента с множественными рецидивирующими остроконечными кондиломами головки и крайней плоти полового члена, не поддающимися консервативному лечению. Комбинация длительной противовирусной терапии и местного применения подофиллотоксина оказалась недостаточно эффективной, что привело к распространенному поражению полового члена. Причиной упорного течения заболевания стало инфицирование пациента вирусом папилломы человека 6-го типа. Проведенное оперативное вмешательство включало циркумцизию, френулопластику, иссечение оставшихся кондилом головки полового члена и электрокоагуляцию кожи в местах их бывшего расположения, дополненное противовирусной терапией интерфероном, что привело к клиническому выздоровлению пациента. Рецидив заболевания в течение 6 мес. не установлен.

Ключевые слова: остроконечные кондиломы; вирус папилломы человека; циркумцизия; противовирусная терапия.

Как цитировать

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INTRODUCTION

Condyloma acuminata of the penis, which are classified as anogenital venereal warts, result from human papillomavirus (HPV) infection. They manifest as tumor-like lesions on the skin of the external genitalia and the mucous membrane of the urethra. Anogenital warts are the most common clinical manifestation of HPV infection, predominantly caused by HPV types 6 and 11 [1]. In men, the infection is transmitted through sexual contact with an infected partner, and the virus enters the body via lesions on the mucosal surfaces or skin. HPV is a known risk factor for penile cancer [1, 2]. The primary treatment for condyloma acuminata of the penis is their destruction. There are several methods for condyloma removal, but none completely eliminate the risk of recurrence, as removal does not eradicate HPV from the body [3]. In cases of recurrence of solitary warts, repeat destruction is recommended, whereas for multiple warts, circumcision combined with antiviral therapy is performed [4, 5]. The ICD10 code for this condition is A63 Anogenital (venereal) warts.

The aim is to present a clinical case of multiple recurrent condyloma acuminata of the penis in a young patient, in the context of the lack of effect of conservative therapy, and to outline the surgical treatment strategy and its outcomes.

CASE DESCRIPTION

A 29-year-old male patient was examined at the urology clinic for multiple recurrent condyloma acuminata of the penis. According to the patient, 4 months ago, he noticed a small (up to 3 mm) irregularly shaped lesion on the glans penis, raised above the skin. Over the next 2 months, several similar growths appeared on both the



Fig. 1. Multiple recurrent condylomata acuminata of the penis
Рис. 1. Внешний вид множественных рецидивных остроконечных кондилом полового члена

glans and the inner preputial surface. The patient was subsequently referred to a dermatologist at a military hospital. Following the recommendation, he received conservative oral therapy with inosine pranobex at a dose of 500 mg three times a day for 20-day courses in combination with multivitamins. Local treatment with podophyllotoxin (0.15% cream) twice daily onto the condylomas for 3 days with a 4-day interval. This treatment was repeated twice until there was a reduction in clinical symptoms, resulting in the disappearance of most warts. However, in the beginning of Month 4, the pathological process progressed with the appearance of multiple recurrent genital warts on the glans and inner preputial surface of the penis.

Due to the lack of effect of the conservative therapy and the extensive penile tissue involvement, the patient was referred for treatment at the Kirov Military Medical Academy. The appearance of the multiple recurrent condyloma acuminata of the penis at admission to the urology clinic is shown in Fig. 1.

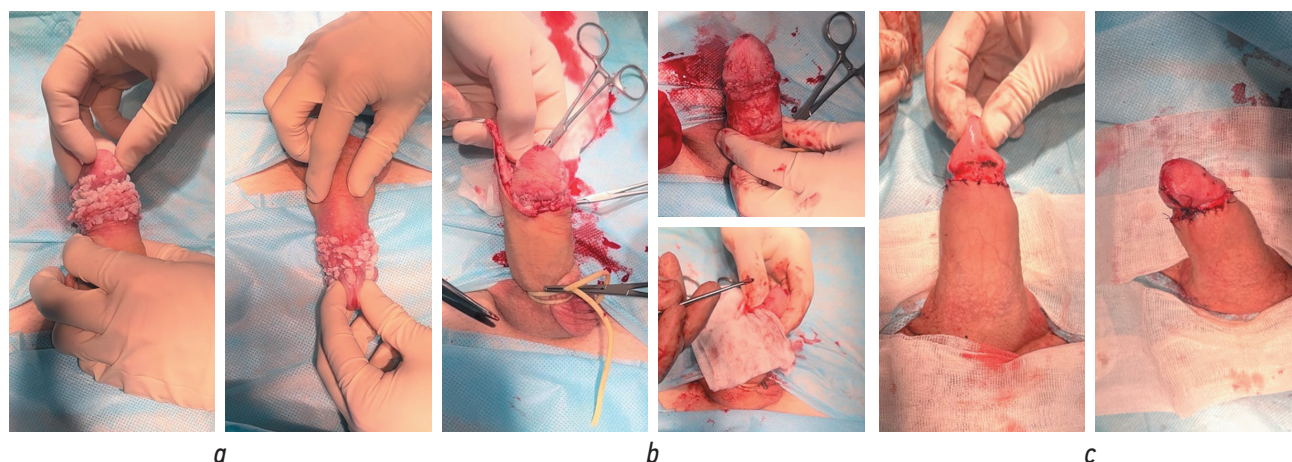


Fig. 2. Stages of surgical intervention: *a*, penis with an exposed glans before surgery; *b*, circular excision of the foreskin; *c*, final outcome of surgical treatment

Рис. 2. Этапы оперативного вмешательства: *a* — вид полового члена с оголенной головкой до операции; *b* — круговое иссечение крайней плоти; *c* — окончательный результат оперативного лечения

The PCR analysis of epithelial scraping from the urethra detected HPV type 6. To rule out urethral involvement, urethroscopy was performed; no abnormal changes were revealed in the urethra. Before the scheduled removal of the condyloma acuminata, the patient was negative for syphilis, HIV, and hepatitis B and C in serological tests.

Taking into account subacute balanoposthitis, the patient received oral levofloxacin for 5 days, and the glans and preputial skin were treated with antiseptic agents. After the resolution of the associated inflammatory changes in the area of condylomas, the patient underwent surgery under general anesthesia, which involved circumcision, frenuloplasty, excision of the remaining penile warts, and electrocoagulation of the skin at the sites where the warts had previously been located (Fig. 2).

Histological examination of the removed condylomas revealed no signs of malignancy. Postoperatively, antiviral therapy with subcutaneous interferon alpha2b was initiated at a dose of 3,000,000 IU once every 3 days, 5 injections in total. The patient was discharged in satisfactory condition on Day 4 to continue treatment under the supervision of a dermatologist and urologist at his place of service, with a recommendation to repeat the interferon therapy course. At Month 6 post-surgery, during a follow-up examination, no recurrence of condyloma acuminata of the penis was observed, and the PCR analysis of the epithelial cells from the urethra for HPV was negative.

DISCUSSION

Condyloma acuminata (anogenital venereal warts) are caused by highly contagious HPV, which is the causative agent of one of the most common sexually transmitted infections [6]. The life cycle of this virus is closely linked to squamous epithelial cells in the genital tract, oral cavity, esophagus, and other organs [7, 8]. More than 90% of condyloma acuminata cases are caused by HPV types 6 and 11, whereas the remaining 10% are caused by HPV types 16, 18, 31, 33, and 35 [1, 3, 9]. Hyperproliferation of cells in the suprabasal layers leads to epithelial neoplasia, clinically manifesting as anogenital warts several weeks or months after HPV infection. Special interest in HPV is due to the high oncogenic potential of certain virus strains [10, 11]. By inducing high proliferative activity and cellular transformation, HPV significantly influences cancer initiation in the penis, rectum, cervix, and other locations [2, 12, 13]. Consequently, infection with HPV types of low oncogenic potential can lead to condyloma acuminata, whereas infection with high oncogenic potential types can lead to anogenital squamous cell carcinoma [14].

According to the World Health Organization, approximately 600 million men and women were infected with

HPV in 2019. A study conducted in the Russian Federation found the prevalence of HPV among men to be 8,769 cases per 100,000 people, with the highest prevalence in the 30–34 age group. For women, the prevalence was 9,304 cases per 100,000 people, with the highest prevalence in the 18–24 age group [15].

The management of patients with condyloma acuminata is outlined in both Russian and international clinical guidelines [4, 5]. In the Russian Federation, diagnosis and treatment should follow the standard for medical care for adults with anogenital (venereal) warts. Depending on the extent of the lesions in the male genital area, medical care is provided by dermatologists or urologists. The diagnosis of condyloma acuminata is established based on the identification of tumor-like lesions on the glans penis, foreskin, external urethral meatus, and within the urethra, detection of HPV in urethral scrapings using PCR, and the exclusion of malignancy during pathological examination.

Conservative treatment for condyloma acuminata includes antiviral agents (inosine pranobex, interferon, etc.), as well as various destruction methods: chemical (inorganic salts, acids, and their combinations), physical (laser destruction, cryodestruction, electrocoagulation), and others. Indications for surgical treatment include multiple and recurrent lesions, lack of effect of conservative therapy, and cancer concern. The choice of surgical method is based on the spread of genital warts, the affected area of the glans and foreskin, and suspected malignancy. Surgical treatment involves excision of condyloma acuminata using an electrosurgical knife or laser beam, followed by electrocoagulation of the lesion sites. In some cases, the affected foreskin is removed.

Prevention of condyloma acuminata involves both non-specific and specific preventive measures. Non-specific prevention includes avoiding casual sexual contact, using condoms, and timely screening and treatment of sexual partners. Specific prevention methods for HPV infection include vaccination [16]. In the Russian Federation, the following vaccines are authorized: 1) a recombinant bivalent vaccine against HPV, containing antigens of HPV types 16 and 18; and 2) a recombinant quadrivalent vaccine against HPV, containing antigens of HPV types 6, 11, 16, and 18. Vaccination should be performed before the initiation of unprotected sexual activity.

CONCLUSION

Condyloma acuminata result from HPV infection and may have a recurrent course despite treatment. Solitary lesions can be removed through the local application of chemical agents and physical treatments. Multiple and recurrent anogenital venereal warts require a comprehensive treatment approach, combining both surgical and conservative methods.

ADDITIONAL INFO

Authors' contribution. All authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study. Personal contribution of each author: V.V. Protoshchak — study concept and design development, editing the manuscript text; A.E. Gorbunov, N.Yu. Iglovikov — analysis of literature data, writing the manuscript text; M.V. Paronnikov, P.A. Babkin, N.P. Kushnirenko, N.N. Kharitonov, V.K. Karandashov — analysis of literature data, editing the manuscript text.

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Consent for publication. Written consent was obtained from the patient for publication of relevant medical information and all of accompanying images within the manuscript.

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Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией. Личный вклад каждого автора: В.В. Протошак — разработка концепции и дизайна исследования, редактирование текста рукописи; А.Е. Горбунов, Н.Ю. Игловиков — анализ данных литературы, написание текста рукописи; М.В. Паронников, П.А. Бабкин, Н.П. Кушниренко, Н.Н. Харитонов, В.К. Карандашов — анализ данных литературы, редактирование текста рукописи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией данной статьи.

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