

Buschke – Lowenstein Tumor. Case Report in a Patient with a History of Kidney Transplantation with Chronic Graft Rejection

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Abstract

Buschke-Löwenstein tumor is a rare disease characterized by aggressive local infiltration in the perineal region, associated with human papillomavirus infection. It primarily affects immunocompromised patients, with surgical resection being the mainstay of treatment. We report the case of an adolescent with a history of chronic immunosuppression due to vasculitis and subsequent renal complications, including terminal chronic kidney disease and renal transplant failure. At 16 years old, she was diagnosed with Buschke-Löwenstein tumor and underwent surgical treatment with complete lesion excision.¹

Keywords: Buschke – Lowenstein Tumor; Perineal Region; Giant condyloma acuminatum (GCA); Female Adolescent.

Introduction

Giant condyloma acuminatum (GCA), or Buschke-Löwenstein tumor, is a rare disease with an estimated prevalence of 0.1%. It is associated with factors such as human papillomavirus (HPV) infection, immunodeficiencies, poor hygiene, multiple sexual partners, and chronic genital infections.¹ HPV types 6 and 11 are implicated in 90% of cases.² It manifests as cauliflower-like growths in the genital region with odor, bleeding, and local infection, necessitating consideration of various differential diagnoses including sexually transmitted diseases. It has a high rate of malignant transformation and tends to invade adjacent soft tissues.

The objective of this article is to present the case of an adolescent who developed Buschke-Löwenstein tumor secondary to HPV type 11, requiring surgical treatment with 100% lesion resection.

Case Report

This report describes the case of a female adolescent who was referred to the Hospital Infantil de México Federico Gómez at the age of 6 years and 7 months due to IgA vasculitis with renal, cutaneous, as well as joint involvement, and a history of steroid use for treatment. She was evaluated by nephrology, and a renal biopsy documented focal and segmental glomerulosclerosis (3/7 glomeruli) with mild tubulointerstitial damage. She received treatment with steroids and mycophenolate mofetil for one year, experiencing two disease relapses, which required a change in treatment to cyclosporine. At the age of 10, further evaluation concluded with a diagnosis of vasculitis with positive antineutrophil cytoplasmic antibodies (ANCA) and positive myeloperoxidase (MPO), which progressed to end-stage renal disease.

The patient began renal replacement therapy with hemodialysis at the age of 12, underwent a deceased donor kidney transplant at the age of 12 years and 9 months, and was then discharged with immunosuppressive treatment. Subsequently, she was admitted multiple times due to graft dysfunction, with renal biopsies documenting Banff grade IIa cellular and humoral rejection. Management included methylprednisolone pulses, thymoglobulin, immunoglobulin, cyclophosphamide, and rituximab. Nevertheless, she developed chronic graft nephropathy, and by the time she was 15 years old, microscopic polyangiitis of the graft was diagnosed. She resumed renal replacement therapy at the age of 16.

At the age of 16, she was seen by pediatric dermatology due to dermatosis localized to the pelvic area, affecting the perineal region. The lesions were characterized by exophytic neoplasms, which were non-pruritic and not associated with pain. A diagnosis of Buschke-Löwenstein tumor was made (Figure 1). She received treatment with podophyllin with poor adherence. Sampling and typification of the skin lesions confirmed a positive HPV diagnosis of serotype 11. In conjunction with the general surgery department, electrosurgical resection of condylomas, cryosurgery, and podophyllin application were performed (Figure 2). A second session was scheduled for cryosurgery and podophyllin application, and a third session involved complete resection of condylomas by plastic surgery (Figures 3 and 4).



Figure 1. Buschke-Löwenstein tumor. Dermatosi localized to the trunk, affecting the perineal region, characterized by exophytic neoplasms, non-pruritic and not associated with pain.



Figure 2 and 3. The lesion once performed electrosurgical resection of condylomas, cryosurgery, and podophyllin application.



Figure 4. Complete resection of condylomas.

Discussion

Giant condyloma acuminata is a rare entity characterized by an exophytic lesion resembling cauliflower, which tends to infiltrate adjacent tissues. It is considered a sexually transmitted disease that affects the anogenital region and is caused by the human papillomavirus (HPV), particularly genotypes 6 and 11¹. Among the multiple risk factors, it has been documented that HPV preferentially affects immunocompromised patients, particularly those with cellular immune impairment³. Similar to the case of this patient, who underwent immunosuppressive treatment for 9 years and subsequently developed giant condyloma acuminata in the perineal region, leading to the diagnosis of a Buschke-Löwenstein tumor.

Regarding its epidemiology, the lack of diagnostic criteria and the rarity of the disease make it difficult to establish specific incidence and prevalence rates. However, it is estimated that the general population has a prevalence of 0.1%³.

HPV has a tropism for epithelial cells, especially those present in skin and mucous membranes. The disease progression and viral serotype are determinants in the manifestation of benign and malignant proliferations when cellular invasion occurs⁴. The diagnosis of the Buschke-Löwenstein tumor is mostly clinical; however, confirmation histopathological confirmation is required to verify the diagnosis. In this case, the latter confirmation test was not possible, due to the lack of cooperation from the patient's family to obtain a biopsy sample. The combination of a poor diagnosis and a deficient adherence to treatment resulted in unchecked growth and development of the tumor. Ultimately, the patient underwent surgical procedures to remove the tumors. There was no need for chemotherapy due to the low oncogenic potential of HPV 11 infections and the absence of malignancy of the tumors.

The treatment of giant condyloma aims to eliminate lesions and prevent their growth and spread. Several therapeutic options are considered, the most common of which are cryotherapy, electrocauterization, topical treatments, and surgical excision, the latter being the golden standard for treating this tumor.⁵⁻⁷

Three of these treatments were used for the patient: topical treatment with podophyllin, which destroys warty cells; cryotherapy, which involves applying extreme cold, using liquid nitrogen and carbon dioxide to eliminate the warty lesions; and surgical excision, which involves the resection of the lesions.

Conclusion

Buschke-Löwenstein tumor is caused by the human papillomavirus (HPV) and is characterized by presenting exophytic, cauliflower-like, and large-sized lesions located in the genital, perineal, or perianal areas. The related risk factors include immunocompromise, the number of sexual partners, poor hygiene habits, and chronic genital infections, among others. The established gold standard treatment is surgical excision, accompanied by reconstruction. On the other hand, drugs and ointments, such as podophyllin, show low efficacy due to high recurrence rates, potentially as soon as one month after completing the treatment⁸. Prevention primarily consists of the application of HPV vaccines. The nine-valent vaccine (protection against HPV types 6, 11, 16, 18, 31, 33, 45, 52, 58) or the quadrivalent vaccine (against HPV types 6, 11, 16, 18) drastically reduce the risk of occurrence, although they do not guarantee the prevention of giant condylomas.

Conflict of Interest

The authors declare they have no potential conflicts of interest to disclose.

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