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A case report of extensive condyloma acuminata in a pediatric patient clearing with compounded 3% cidofovir gel

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Abstract

Background Management and treatment of condyloma acuminata in children are often challenging. The mode of transmission is not always traceable and a sexual abuse investigation should be considered. Treatment ranges from no intervention to reconstructive surgery depending on the extent and symptoms.

Case presentation We are reporting a case of an 18-month-old female with extensive symptomatic condyloma acuminata who was able to avoid surgical treatment after treatment with topical cidofovir 3% gel.

Conclusion This patient is being presented to highlight a medical treatment that can be considered in extensive or large condyloma acuminata cases.

Keywords Condyloma, Treatment, Pediatric, Surgery, Cidofovir

Background

The prevalence of condyloma acuminata in pediatric populations is unknown and, while sexual abuse is considered, Human papillomavirus (HPV) may be transmitted by perinatal transmission, autoinoculation or heteroinoculation, and via fomites [1]. There is currently no universally accepted treatment approach. No-intervention is often the treatment of choice, as 75% of cases will resolve spontaneously within a few years [2]. However, some cases require medical intervention when patients develop symptoms such as bleeding, pruritus, or pain. No single treatment option is consistently effective, and data on current off-label treatment options is scarce. If the condyloma causes significant symptoms, surgical removal may be indicated. We present the case of an 18-month-old female with extensive symptomatic condyloma acuminata which cleared with topical cidofovir 3% gel, precluding risky surgical intervention.

Case presentation

An 18-month-old healthy female presented to our dermatology clinic with a 3-month history of rapidly spreading genital warts. The lesions were large and caused pain and bleeding during bowel movements. Given no history of the patient or contacts having warts in other areas, no history of immunosuppression, and extent of condylomas, a thorough evaluation for possible sexual abuse was conducted. A Child Protective Service (CPS) case report was placed. The patient did not have any other skin signs of abuse at that time and the mother was on board with further investigation. The investigation of possible sexual abuse was reassuring, although the mode of transmission of HPV on this patient could not be traced.

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On exam, the patient had multiple verrucous plaques, papules, and soft sessile tumors in the perineal region, mostly around the anus with almost complete obstruction (Fig. 1). The rest of the exam was normal. The patient's legal guardian has provided informed consent for publication of this case.

Given the size of the lesions and symptoms, pediatric plastic surgery was consulted to determine the best treatment approach. The lesions were mostly external, and the pediatric plastic surgery team planned to surgically remove them. Due to the risk for deformity due to the large area affected, they recommended medical management prior to surgical treatment. The patient was started on oral cimetidine (30 mg/kg/day) and given 0.2 ml of *Candida* antigen injected into two perineal verrucous plaques. She was unable to get topical imiquimod due to insurance coverage. Given the continued pain and bleeding from the condylomas during bowel movements and no lesion improvement after 3 weeks, the patient was started on compounded topical 3% cidofovir gel (petrolatum and Emulsifix Liq 205 base) that was applied to the lesions once daily. This treatment was overall well-tolerated with tolerable irritation throughout the treatment. After 3 weeks, the patient had almost complete resolution of the lesions (Fig. 2). There was no more bleeding or pain and the patient had normal bowel movements. At this visit the cidofovir 3% gel application was changed to once every other day to minimize the irritation. The patient no longer needed surgical treatment.

Two weeks later, the oral cimetidine was stopped due to the patient not liking the taste. She continued to use the cidofovir 3% gel to the few remaining small lesions every other day until all lesions cleared 2 weeks after that (Fig. 3). There were no residual symptoms, scarring, or deformity. The patient was followed for three more years and did not have recurrence of the condyloma acuminata during this time.

Fig. 2 Six weeks after starting cidofovir 3% gel—a few verrucous papules in the perianal region. Some erythematous plaques (inflammation) surrounded by hypo and hyperpigmented patches (post inflammatory dyspigmentation)

Discussion

The mode of transmission of HPV in the pediatric population often remains untraced. Sexual abuse should be considered in cases of condyloma acuminata in children, particularly on older than 2 years of age [1]. In children with anogenital warts, the reports of sexual abuse are too broad, ranging from 0 to 80%. Forms of transmission of HPV in children other than sexual transmission include vertical (periconception, prenatal, and perinatal) and horizontal (autoinoculation and heteroinoculation) transmission [3].

Management of condyloma acuminata presents a therapeutic challenge in pediatric patients. In most cases, condyloma acuminata is asymptomatic and resolves in a few years [4]. When the involvement is extensive, and the patient is symptomatic, other treatment options are considered. Many treatments involve immunotherapy

Fig. 1 Before treatment—many verrucous plaques, papules, and soft sessile tumors in perineal region, mostly around anal region

Fig. 3 Seven weeks after starting cidofovir 3% gel—no lesions

or destructive modalities that can lead to unpredictable responses and can have significant pain or side effects. Immunotherapy with *Candida* antigen and oral cimetidine are two treatment examples that have been shown to be safe and effective as primary and adjuvant treatment for condyloma in children [5, 6]. These treatments avoid local irritation, but treatment response is often slow. For more extensive cases, surgery that potentially has more risks can be considered.

Topical treatments for condyloma are usually preferred when possible. Common topical agents such as imiquimod and podophyllotoxin have limited data on their efficacy and safety in pediatric patients. However, there have been a few case reports of topical cidofovir used in children with moderate success and few side effects, including local irritation and numbing of the skin [7–9]. Cidofovir is a nucleoside analog antiviral agent that competitively inhibits DNA polymerase and is labeled for use intravenously to treat CMV retinitis in immunocompromised patients. While intravenous cidofovir carries risk of serious side effects, topical cidofovir has been used in the treatment of HPV warts in adults with moderate efficacy and a good safety profile, with the most common adverse events being pain, pruritus, and rash at the application site [10].

This patient is being presented to show that compounded cidofovir 3% gel can be considered to treat extensive or large condyloma acuminata prior to or instead of surgical removal. Studies are needed to understand better the safety and efficacy profile of cidofovir in treating condyloma acuminatum in pediatric populations.

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BW and LZD led the conduction of the case. BW, FCPSL, and WDB were contributors in writing the manuscript. All authors read and approved the final manuscript.

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Consent for publication
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Competing interests
The authors declare that they have no competing interests.

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