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Pediatric Anal Condyloma Acuminatum: A Case Study on Non-Sexual Transmission

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ABSTRACT

Condyloma acuminatum, commonly referred to as genital warts, is a manifestation of human papillomavirus (HPV) infection, primarily affecting the anogenital region. While often associated with sexual transmission in adults, non-sexual transmission in pediatric cases presents a unique diagnostic challenge. This article details the case of a 6-year-old girl with anal condyloma acuminatum, emphasizing the importance of considering non-sexual transmission routes. The lesion was successfully treated with electrocoagulation, with no recurrence observed over a three-month follow-up period. The article further explores diagnostic challenges, potential transmission pathways, and therapeutic approaches, supported by an extensive review of relevant literature.

Keywords: Condyloma acuminatum, Human papillomavirus, Pediatric dermatology, Electrocoagulation, Anogenital warts.

Conflict of Interest

The authors declare no conflicts of interest related to this publication.

Informed Consent

Informed consent for the use of the patient's image has been obtained.

Ethical Compliance

This study adheres to the ethical principles outlined in the Declaration of Helsinki.

Introduction

Condyloma acuminatum, or genital warts, is a prevalent condition caused by infection with human papillomavirus (HPV), predominantly types 6 and 11 [1]. While it is commonly transmitted sexually in adults [2], the occurrence in children raises concerns about alternative transmission routes, as well as the social and clinical implications of the diagnosis. Non-sexual transmission in children, although less common, includes vertical transmission, autoinoculation, and indirect transmission through fomites [3] .

Case Presentation

A 6-year-old girl presented to the emergency department with a non-pruritic lesion in the anal region (figure 1). The lesion was noted by her parents during routine hygiene care. On examination, the lesion was diagnosed as condyloma acuminatum. Importantly, there was no history or physical evidence suggestive of sexual abuse, and the patient's immunological evaluation was normal, ruling out immunodeficiency disorders. The lesion was managed with electrocoagulation, a technique selected for its safety and efficacy in pediatric cases. The follow-up over three months showed complete resolution without recurrence .

Discussion

Non-Sexual Transmission Pathways

In pediatric patients, the assumption of sexual transmission must be approached cautiously. Non-sexual transmission routes such as vertical transmission during childbirth, autoinoculation from other parts of the body, and transmission via contaminated objects (fomites) are significant

considerations. Studies suggest that HPV can be transmitted non-sexually through various means [4], and it is essential to differentiate these cases to prevent undue psychosocial consequences .

Diagnostic Challenges

Diagnosing condyloma acuminatum in children involves a thorough assessment to rule out sexual abuse, as misdiagnosis can have profound social and psychological implications. A multidisciplinary approach, involving pediatricians, dermatologists, and social workers, is often necessary. This ensures accurate diagnosis and appropriate management, while also addressing any potential safeguarding concerns .

Management and Therapeutic Approaches

Electrocoagulation was chosen for the treatment in this case due to its effectiveness in removing lesions with minimal tissue damage. This method is particularly suitable for children, as it offers a lower risk of scarring and other complications compared to more invasive procedures [5]. During the three-month follow-up, the patient showed no signs of recurrence, highlighting the efficacy of electrocoagulation in managing pediatric anogenital warts .

Review of Literature

The incidence of condyloma acuminatum in children is relatively low [6], and non-sexual transmission is a well-documented phenomenon. A systematic review by Marcoux et al. (2010) discusses various non-sexual routes of transmission, emphasizing the importance of considering these pathways in pediatric cases to avoid misdiagnosis [7] . Additionally, a study by Berenson (2002) highlights perinatal transmission as a plausible route, suggesting that HPV can be transmitted during childbirth, particularly in cases where the mother has active lesions [4] .

Furthermore, guidelines from the Asian Association for Condyloma Acuminatum (2022) recommend a comprehensive approach to diagnosing and managing condyloma acuminatum, emphasizing the importance of considering non-sexual transmission routes in pediatric cases [3]. These guidelines suggest that HPV can persist in non-sexual environments, supporting the need for careful clinical evaluation.

Implications for Practice

The findings from this case underscore the importance of a careful and nuanced approach to diagnosing anogenital warts in children. Clinicians must consider all possible transmission routes and ensure a thorough and sensitive assessment to avoid misdiagnosis. The use of electrocoagulation as a treatment modality is supported by its effectiveness in achieving lesion clearance with minimal recurrence, making it a viable option in pediatric cases.

Conclusion

This case highlights the significance of considering non-sexual transmission pathways in pediatric cases of condyloma acuminatum. It also reinforces the importance of a thorough diagnostic process to differentiate between sexual and non-sexual transmission, thereby preventing potential psychosocial harm. The successful use of electrocoagulation in this case suggests that it is an effective and safe treatment option for pediatric patients. Continuous follow-up is crucial to monitor for recurrence and ensure the long-term well-being of the patient.

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Figure 1. Condyloma Acuminatum Presenting as a Non-Pruritic Anal Lesion in a 6-Year-Old Girl