Successful Treatment of a Large Exophytic Genital Wart with Imiquimod in a 9 month Infant

Yusuf SM,* FWACP; Yahaya A, MWACP;**
*Dermatology Unit, Department of Medicine, Aminu Kano Teaching Hospital Kano.
*Department of Paediatrics, Aminu Kano Teaching Hospital Kano
Correspondence: shehumy@yahoo.com

ABSTRACT

Treatment of anogenital warts can be a major challenge in infants especially when such warts are large. Most treatment modalities are either painful or require general anesthesia. Imiquimod, an immune modifier, has been used successfully used as off-label in the treatment of perianal warts in children. We report an impressive response to topical Imiquimod on a large condylomata acuminata in a 9 month old baby.

INTRODUCTION

About 2-20% of all children have warts on their skin.[1] The prevalence of anogenital warts in childhood is 1.5%, and they are twice as common in girls compared to boys.[2] Human papillomavirus (HPV) is the aetiologic agent of anogenital warts. HPV types 6 and 11 account for more than 56% of genital warts, however, HPV 1 to 4, 16, or 18 associated with cutaneous warts are frequently detected in anogenital wart in children.[3,4] Genital warts are uncommon in children and, their occurrence in infants should raise the concern of possible vertical transmission from the mother, sexual abuse or transmission non-sexually from direct contact with caretaker contaminated with genital HPV. Neonatal exposure often occurs during delivery as the baby passes through the mother's HPV infected birth canal.[4,5] TreaTment of condylomata acuminata in children can be challenging. Most of the treatment modalities for genital wart are unsuitable for infants. Herein, we report a case of a 9 month old baby girl with large exophytic genital wart successfully treated with topical imiquimod.

CASE REPORT

A nine month old girl was referred to the dermatology unit with a 3 months history of progressively enlarging genital mass. The child was the product of uneventful full-term pregnancy, delivered by spontaneous vaginal delivery in the teaching hospital. She is the only child of the family. The mother had genital wart removed surgically when the pregnancy was 2 month.

Although both parents were HIV positive and on ante retroviral therapy (ARVs), the child was non-reactive to both HIV 1 and HIV 2 antibodies on two different occasions. PCR was also negative.

Physical examination revealed a large, gray, vegetating, cauliflower-like, solitary mass covering almost all the introitus (figure 1).

Location of the mass, clinical appearance of the mass and maternal history of genital wart helped us in arriving at clinical diagnosis of condyloma acuminata.

After considering treatment options, we finally settled on topical imiquimod. It was applied to the lesion three times a week, at bed time. The mother was instructed to wash the treated area with soap and water after 8 to 10 hours. Follow-up visits were scheduled after every 4 weeks. There was marked reduction in the size of the wart at each follow up visit. Treatment was continued

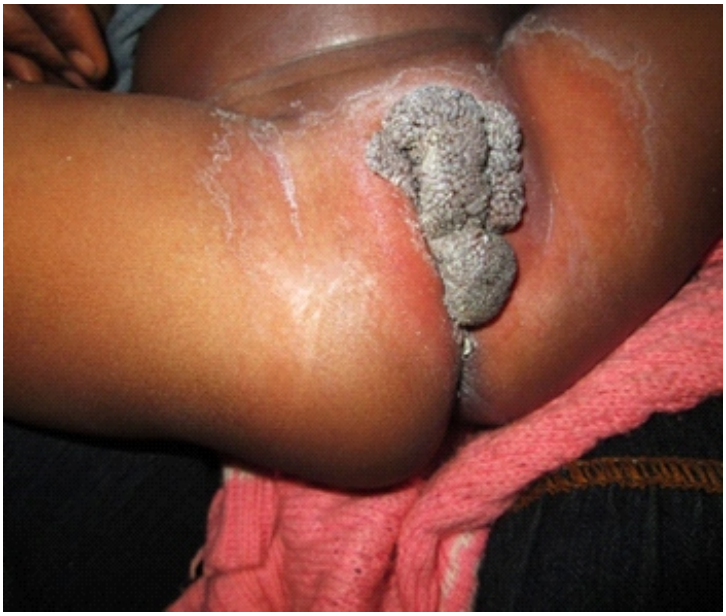

Figure 1: Huge cauliflower tumour covering the introitus

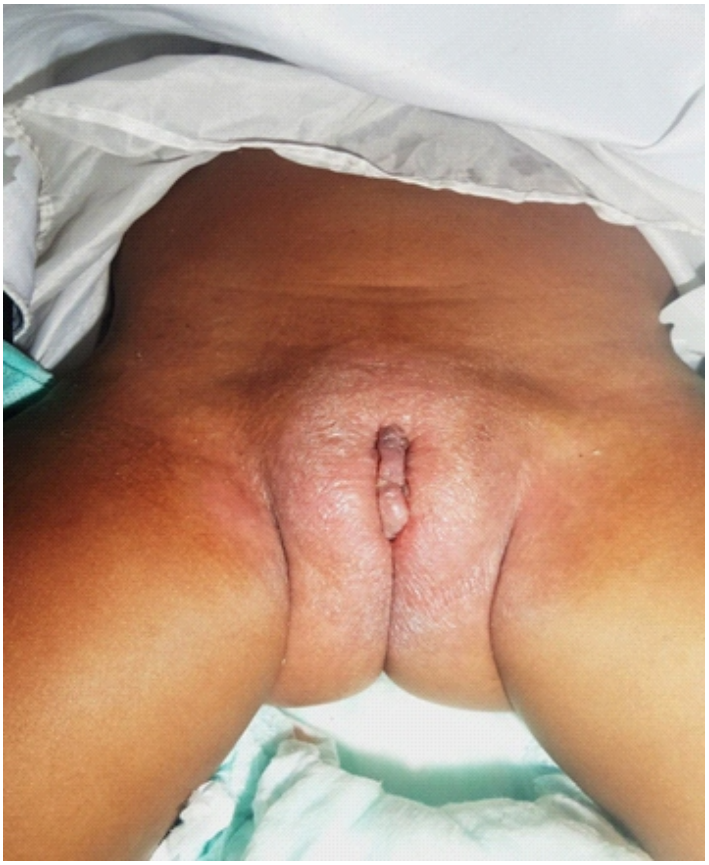

Figure 2: Complete regression of the lesion after 12 weeks

for 16 weeks, at the end of which the lesion had mostly cleared completely (figure 2). The only observed adverse effect was local irritation. No recurrence was observed 6 months after completion of the treatment.

DISCUSSION

Anogenital warts are treated using variety of methods that include chemical cauterization with trichloroacetic acid or podophyllin, electro-cauterization and laser vaporization. These modalities are painful and therefore not suitable for infant.[6] The size of the wart in our patient, the anticipated side effects of pain and burning during treatment, the possibility of pigmentary changes and scaring prevented us from using cryotherapy with liquid nitrogen.

Surgery is the best option for giant genital warts. However, the need for general anesthesia, possibility of extensive reconstruction and attendant complications were deterrents. The size and extent of the wart and the tender age of the patient were also limitations to the surgical option in our patient.[6,7]

Imiquimod is an immune modifier belonging to the imidazoquinoline compounds. Its mode of action is not very clear, but it has cytokine inducing and immune-modulatory properties. It interacts with toll-like receptors (TLR) to induce cytokines such as interferon alpha, interleukin 12(IL-12) and tumour necrosis factor alpha.[8] The secretion of these pro-inflammatory cytokines triggers immune responses through a cascade of reaction that eventually recognizes and destroys the virally infected cells.[8] Imiquimod has been approved by FDA for the treatment of genital warts in patients above 12 years.[8] Clearance of the wart is accomplished in 72 to 84% of cases, while recurrence rates was reported as I 5-19%.[9] Adverse effects are usually mild and well tolerated. These include erythema, burning, itching and tenderness.[10]

Although not licensed for pediatric use, imiquimod has been used successfully off-label in the treatment of warts in children. Several anecdotal reports have demonstrated its safety and efficacy in children as young as 6 month.[10] Gruber and Wilkinson in UK reported complete clearing of perianal wart with topical imiquimod within 5 weeks in a 2year old boy.[11] Similar responses were noted by Clivati Brand et al in Brazil,[12] Masuko in Japan,[13] Majewski et al in Poland,[14] Šikanić Dugić et al in Croatia,[15] Leclair E et al in canada[16] and Moresi et al in USA.[17] In all these reports, the duration of treatment ranged between 5 to 16 week,[12-18] and no major side effects other than mild pruritus, local erythema and burning were reported. As observed in our case, no recurrence was reported after 6 months by any of the studies.

Conclusion

Imiquimod can be a new therapeutic option for anogenital wart in children. It has an edge over other treatment modalities due to its ease of application, mild side effect and a low recurrence rate, more so it is painless. The major drawback of this drug remains its high cost and unavailability.

REFERENCES

1. Williams HC, Pottier A, Strachan D. The descriptive epidemiology of warts in British schoolchildren. *Br J Dermatol* 1993; **128**: 504–11.
2. Bülbül S, Demirceken F, Cakir B, et al. Difficulties in diagnosing sexual abuse in children with condyloma acuminata in Turkey. J Child Sex Abus 2010;19:35-42.
3. Sinclair KA, Woods CR, Kirse DJ, Sinal SH. Anogenital and respiratory tract human papillomavirus infections among children: age, gender, and potential transmission through sexual abuse. Pediatrics 2005; 116:815.
4. Allen AL, Siegfried EC. The natural history of condyloma in children. J Am Acad Dermatol 1998; 39:951
5. Money DM, Roy M. Canadian consensus guidelines on human papillomavirus. J

Obstet Gynaecol Can.2007;29(8 Suppl 3):S1–56.

6. Workowski KA, Berman S, Centers for Disease Control and Prevention Sexually transmitted diseases treatment guidelines, 2010. MMWR Recomm Rep. 2010;59(RR-12):1–110
7. Beutner KR, Spruance SL, Hougham AJ, et al. Treatment of genital warts with an immune-response modifier (imiquimod). J Am Acad Dermatol. 1998;38:230-9.
8. Perry CM[1], Lamb HM.Topical imiquimod: a review of its use in genital warts. Drugs. 1999 Aug;58(2):375-90.
9. Cullton DA, Morrell DS, Burkhart CN. The management of condyloma acuminata in the pediatric population. Pediatr Ann 2009;38:368-72.
10. Schaen L, Mercurio MG. Treatment of human papilloma virus in a 6-month-old infant with imiquimod 5% cream. Pediatr Dermatol 2001; 18:450
11. Gruber PC, Wilkinson J. Successful treatment of perianal warts in a child with 5% imiquimod cream. J Dermatolog Treat 2001; 12:215.
12. Campaner AB, Santos RE, Galvão MA, et al. Effectiveness of imiquimod 5% cream for treatment of extensive anogenital warts in a seven-year-old child. Pediatr Infect Dis J 2007; 26:265
13. Masuko T, Fuchigami T, Inadomi T, et al. Effectiveness of imiquimod 5% cream for treatment of perianal warts in a 28-month-old child. Pediatr Int 2011; 53:764.
14. Majewski S, Pniewski T, Malejczyk M, Jablonska S. Imiquimod is highly effective for extensive, hyperproliferative condyloma in children. Pediatr Dermatol 2003; 20:440.
15. Šikanić Dugić, Suzana Ljubojević Hadžavdić, Nives Pustišek, Vlasta Hiršl Hećej Treatment of Anogenital Warts in an 18-month-old Girl with 5% Imiquimod Cream Acta Dermatovenerol Croat 2014;22(1):40-43
16. Moresi JM, Herbert CR, Cohen BA. Treatment of anogenital warts in children with topical 0.05% podofilox gel and 5% imiquimod cream. Pediatr Dermatol 2001; 18:448.
17. Leclair E, Black A, Fleming N. Imiquimod 5% cream treatment for rapidly progressive genital condyloma in a 3-years-old girl. J Pediatr Adolesc Gynecol 2012;25:119-21.