Urology Case Reports 20 (2018) 1–2

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Inflammation and infection

Surgical excision of a large, verrucous, scrotal mass in a patient with HSV-2 and HIV-1 co-infection

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ARTICLE INFO

Keywords:
HSV
HIV
Verrucous lesion
Scrotal mass

ABSTRACT

Genital herpes simplex virus (HSV) infection in HIV-positive individuals can result in a unique presentation of symptoms. Instead of small papules or vesicles that recur and heal periodically, certain individuals present with large, chronic, verrucous lesions. We report a case in which a 45 year old male with acyclovir-resistant HSV-2 and positive HIV-1 serology underwent surgical excision of a verrucous mass on his left hemiscrotum.

Introduction

The majority of genital HSV cases are subclinical but symptomatic patients typically present with painful, recurring, macular or papular lesions that progress to vesicles, pustules, and ulcers that heal.[1] However, in immunocompromised patients, HSV infection can present differently as chronic, hyperkeratotic plaques with a verrucous appearance.[2] The prevalence of HSV infection is higher in people who are HIV-positive and drug-resistant HSV strains are more likely to be isolated from HIV-positive than immunocompetent patients.[3,4] For patients with chronic lesions that have failed treatment with medication, surgical excision can provide relief.[5]

Case presentation

A 45-year-old African American male with acyclovir-resistant HSV-2 and positive HIV-1 serology (undetectable viral load; 543/cu mm CD4 count) presented for treatment of a herpes vegetans mass involving his left hemiscrotom and groin that had been present for 18 months. On physical exam the patient had a red, verrucous lesion involving his left hemiscrotum and groin with significant exudate and purulence (Fig. 1). The mass was non-tender to palpation. 3x daily treatment with aldara did not relieve symptoms and the infection was resistant to intralesional cidofovir. Because of the failure to respond to medication, the patient was indicated for surgery to excise the mass.

Operating room staff wore ultra fine filtering facemasks (1860S respirator and surgical mask from 3 M) to minimize the risk of viral transmission. A circumferential incision was made with electrocautery around the scrotal mass, which extended onto the base of the penis, with a 1 cm margin deep to dartos fascia. During the resection, care was taken not to injure the scrotal contents. The reconstruction was notable for a complex closure of the scrotum as well as revision and phalloplasty of the base of the penis with release of adhesions from the local inflammatory reaction surrounding the mass. The scrotoplasty was performed using a complex rotational tissue rearrangement of the scrotal skin to cover the large defect. 3-0 Vicryl sutures were used to close the space in the base of the wound extending to the penis. Rearrangement of the scrotal skin was mobilized to cover the defect. The penile defect was addressed by degloving the base of the penis in order to mobilize the lateral penile shaft skin to provide a tension-free closure, closing in layers including dartos fascia, subdermal tissues, and finally staples to close the skin (Fig. 2).

A portion of the resected mass measuring 8.2 × 5.1 × 2.8 cm was sent for pathological assessment, which revealed viral cytopathic effects consistent with HSV infection in a background of marked pseudoepitheliomatous hyperplasia, reactive epithelial changes, and dense lymphoplasmacytic infiltrate with no evidence of malignancy.

The patient was discharged the day of his surgery after voiding successfully and was prescribed a two-week regimen of twice daily oral sulfamethoxazole/trimethroprim 800/160 mg tablets. The patient returned to clinic 13 days after surgery for removal of his staples. At a follow-up appointment seven weeks after surgery, the incision appeared well-healed and the scrotum looked symmetrical and without abnormality. There was no evidence of recurrent growth of the lesion. The patient reported that he could attain an erection and was able to have sexual intercourse.

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https://doi.org/10.1016/j.eucr.2018.05.014
Received 19 January 2018; Accepted 10 May 2018
Available online 24 May 2018

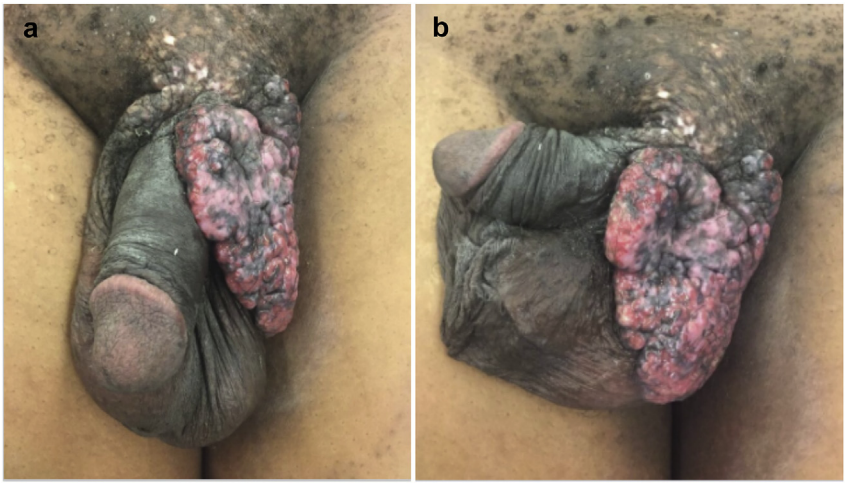

Fig. 1. Anterior (a) and lateral (b) aspects of the verrucous lesion on the left hemiscrotum.

Fig. 2. The scrotum after resection and closure with staples.

Discussion

We report the growth of a large, verrucous mass on the scrotum of an individual with positive HSV-2 and HIV-1 serology. Lesions of this type in HIV-positive patients most commonly present on the perianal/anal/perineum and scrotum, though lesions have also been reported on the intergluteal and inguinal canals, vulva, penis, hands, feet, ears, endobronchial tube, and tongue.[2]

Only a subset of HSV and HIV co-infected patients develop verrucous growths and the pathophysiology of these lesions is not completely understood. Some speculate that the immune reconstitution inflammatory syndrome following the initiation of HAART therapy can lead to an inflammatory response that predisposes the body to lesion formation.[2] Another proposed mechanism is that HIV infection causes dendritic cells to produce anti-apoptotic cytokines that create an environment favorable to tissue proliferation.[2]

Certain HSV-, HIV-positive individuals respond to treatment with acyclovir, valacyclovir, foscarnet, or brivudin, whereas others are either initially unresponsive or develop resistance to one or multiple drugs.[5] Patients who do not respond to pharmacological options are indicated for surgical excision of the lesion, which provides generally good results. Out of a survey of 15 published cases, 7 people were treated successfully with medication alone, 5 underwent successful excision without recurrence of the lesion, and 3 experienced regrowth after surgery.[5]

Conclusion

We present a patient co-infected with HSV and HIV who had surgery to remove a verrucous scrotal lesion that was resistant to acyclovir and cidofovir. Seven weeks following the procedure, he was not taking any anti-HSV medication and continued to be lesion-free. For this patient, surgical excision produced a cosmetically pleasing result and allowed him to resume sexual intercourse without discomfort. This case can be added to the growing number of reports of verrucous genital lesions in patients with HSV and HIV co-infection. The successful excision of the lesion supports the role of surgery as a viable option for those who are unresponsive to treatment with antiviral medications.

References

1. Sauerbrei A. Herpes genitalis: diagnosis, treatment and prevention. *Geburtshilfe Frauenheilkd.* 2016;76(12):1310–1317.
2. Quesada AE, Galfione S, Colome M, Brown RE. Verrucous herpes of the scrotum presenting clinically as verrucous squamous cell carcinoma: case report and review of the literature. *Ann Clin Lab Sci.* 2014;44(2):208–212.
3. Levin MJ, Bacon TH, Leary JJ. Resistance of herpes simplex virus infections to nucleoside analogues in HIV-infected patients. Clin Infect Dis. 39(Supplement 5):S248–S257. doi:https://doi.org/10.1086/422364.
4. Nag S, Sarkar S, Chattopadhyay D, Bhattacharya S, Biswas R, SenGupta M. Seroprevalence of herpes simplex virus infection in HIV coinfected individuals in eastern India with risk factor analysis. *Adv Virol.* 2015;2015(537939)http://dx.doi.org/10.1155/2015/537939.
5. Chung V, Parker D, Parker S. Surgical excision for vegetative herpes simplex virus infection. *Dermatol Surg.* 2007;33(11):1374–1379. http://dx.doi.org/10.1111/j.1524-4725.2007.33295.x.