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Local Excision for the Treatment of Penile Verrucous Carcinoma

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ABSTRACT

Penile verrucous carcinoma is known for its favorable biologic behavior and lack of metastatic potential. For preservation of function, treatment has been focused on partial penectomy. Despite partial penectomy for preservation of minimal functional and aesthetic aspects, patients have experienced psychosexual problems. A 73-year-old man had a cauliflower-like verrucous carcinoma on the penile glans and coronary sulcus diagnosed by using excisional biopsy. He underwent degloving excision to save the penile shaft and glans penis. Surgical margin was 3 mm. He had been tumor-free at the 2-year follow-up. For maximum preservation of the functional and aesthetic aspects, we recommend degloving excision.

Introduction

Penile verrucous carcinoma is a rare, low-grade, well-differentiated squamous cell carcinoma (SCC) that exhibits slowly expanding warty growth and rare metastasis.[1,2] In general, patients with penile verrucous carcinoma undergo partial or total penectomy with tumor-negative surgical margins without preventive lymphadenectomy. However, surgical excisions of the glans penis and penile shaft are problematic in terms of function and aesthetics. Indeed, after partial or total penectomy, patients experience psychosexual problems. Recently, the trends in surgical treatment are directed toward preservation surgery for the prevention of psychosexual problems. Herein, we report our experience with a case of verrucous carcinoma excised by using degloving methods for preservation of the function and aesthetics of external genitalia.

Case report

A 73-year-old man with a growing mass on the penis and coronary sulcus visited our outpatient clinic. The mass was about 3 cm in diameter. The tumor was first noticed by the patient 1 year earlier. The mass was firm and adherent at its base, and had multiple papillary lesions and a cauliflower-like appearance (Fig. 1). Neither inguinal lymph node nor distant metastasis was observed on chest radiography and physical examination. Patient refused any further work-up as Computed Tomography or ultrasonography. Because of patient's old age and poor general condition, authors decided to do excision with biopsy for the purpose of treatment and diagnosis. Under spinal anesthesia, the penile masses were incised with a sharp knife and carefully resected along with surrounding tissues. Surgical margin was 3 mm. The wound was closed by using a local flap. The excised masses were sent to the laboratory for proper histopathologic diagnosis. The patient did not undergo ilioinguinal lymphadenectomy or chemotherapy. He provided written informed consent to publish the findings of this case.

Grossly, the tumor revealed exophytic papillary lesions with a brittle texture, and the incisal surface was pinkish to gray. On the hematoxylin- and eosin-stained sections, the epithelium grew downward into the underlying tissues in a bulbous or drumstick process. Generally, the tumor exhibited clear boundaries and rich lymphocytic infiltration in the surrounding mesenchyme. Microscopic examination revealed the tumor to be characterized by papillary growth at the surface and locally aggressive invasion in the basement membrane of the tumor, without lymphovascular invasion. At the base, no tumor cells were observed (Fig. 2). The polymerase chain reaction (PCR) test result was negative for human papilloma virus (HPV). The patient was followed closely afterward in the clinic for 2 consecutive year. Physical examination results showed good healing with no evidence of recurrence either locally or at other sites. The photo was taken on 1 consecutive year (Fig. 3).

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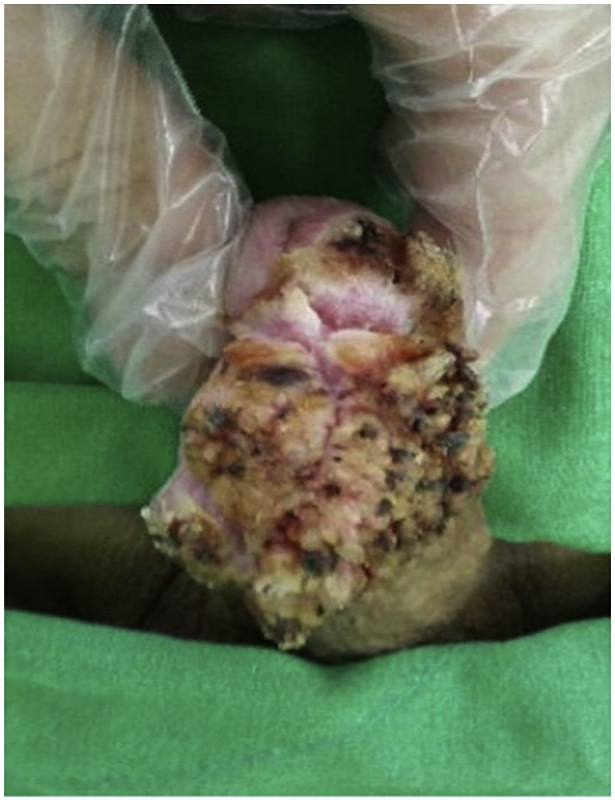

Figure 1. Photograph taken preoperatively. The mass was on the penis and coronary sulcus. The size of mass was about 3 cm in diameter. The mass was firm and adherent at its base, and had multiple papillary lesions and a cauliflower-like appearance.

Discussion

Previous studies have reported that verrucous carcinoma accounts for approximately 2.4–24% of all penile cancers and 20% of verruciform lesions of the penis, which also include giant condyloma (Buschke-Löwenstein) and papillary SCC.[1,2] The lesions of penile verrucous carcinoma often present with a cauliflower- or wart-like appearance. They do not cause significant pain but grows slowly without inhibition, possibly invading the glans or even the shaft. In the present case, the patient presented with a 1-year history of a slow-growing mass with multiple papillary lesions and a cauliflower-like appearance. The mass was adherent at the glans penis and coronary sulcus. Biopsy and HPV PCR test are essential for differential diagnosis from HPV-related tumors. In almost all cases of penile verrucous carcinoma, the pathogenesis is unrelated to HPV infection.[1,2]

Previous surgical treatments reported in the literature were focused on preventive wide excision, including glansectomy, and

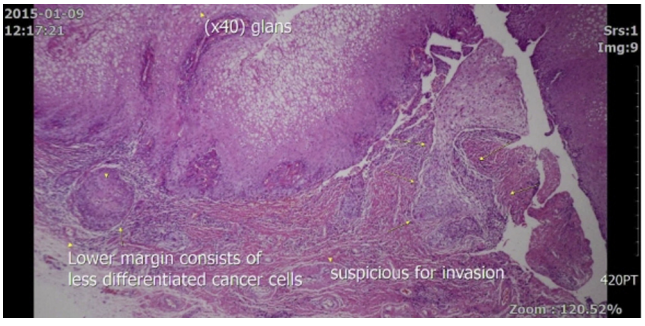

Figure 2. (×40) The tumor was locally aggressive invasion in the basement membrane. Lower margin portion shows keratin pearls, less differentiated tumor cells, and focal invasion.

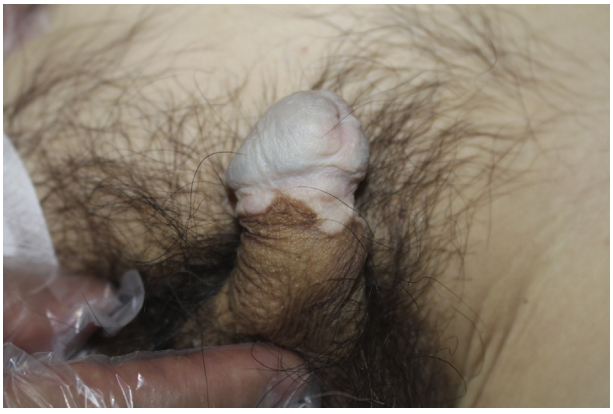

Figure 3. Photograph taken 1 year postoperatively. The result showed good healing with no evidence of recurrence either locally or at other sites.

partial or total penectomy with 5-10 mm surgical margin.[2,3] However, the excision was too wide for relatively small masses (≤3 cm). The penile verrucous carcinoma in the present case was well differentiated and less invasive during its clinical progress. We suppose that even if the penile verrucous carcinoma is malignant, it may present characteristics of a favorable biologic behavior and lack of metastatic potential. Thus, we suggest that for the best functional and esthetic results, the first-line choice of treatment is degloving excision followed by careful observation instead of preventive glansectomy or partial penectomy.

As for adjuvant therapy, preventive inguinal lymphadenectomy was seldom used because of rare evident lesions.[3] So authors would like to suggest that if the patient was confirmed as verrucous carcinoma from the biopsy and has no inguinal lymphadenopathy with physical examination, the further work up as CT or Ultrasonography could be postponed at the initial step. Even conservative chemotherapy without surgery was reported.[4] With regard to tumor behavior, <30% of reported cases of verrucous carcinomas were complicated with micro-lesions of invasive squamous cell carcinoma.[5] For this reason, patients who had undergone local excision should be followed-up closely for early detection of recurrence. If any sign of recurrence is observed, additional resection should be considered. In this case, the wound was well healed, yet local recurrence has not been observed. Therefore, considering both functional and esthetic aspects, we recommend degloving excision as a treatment option.

Conclusion

We think that even if the penile verrucous carcinoma is malignant, it has characteristics of a favorable biologic behavior and lack of metastatic potential. Thus, we would like to suggest that for maximum preservation of functional and esthetic aspects, simple tumor excision alone would be a good choice as first-line treatment. In the present case, the surgical margin was 3 mm and favorable outcomes could be achieved by simple surgical excision with careful follow-up.

Conflict of interest

None.

Acknowledgment

None.

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