CASE REPORT

Giant condyloma acuminatum of penis with cancer transformation

Hsu-Cheng Juana, Maw-Chang Sheenb, Tsung-Yi Huanga, Chun-Chieh Wuc, Shu-Pin Huanga, Yung-Chin Leea,d, Wen-Jeng Wua,e, Chii-Jye Wanga, Chun-Hsiung Huanga, Chia-Chu Liua,d,e,f,*

* Corresponding author. Department of Urology, Kaohsiung Medical University Hospital, 100 Tz-You 1st Road, Kaohsiung 807, Taiwan.
E-mail address: m8201055@yahoo.com.tw (C.-C. Liu).

Summary Giant condyloma acuminatum (GCA) is a rare, sexually transmitted disease with a high rate of local recurrence and malignant transformation. However, the optimal treatment for patients in whom GCA coexists with penile cancer is not well defined. We report a case treated successfully with preservation of the penis. Wide tumor excision was performed and the patient received adjuvant intra-arterial chemotherapy with methotrexate. We also evaluate the efficacy and functional outcome of penile preservation management for GCA with penile cancer transformation. In the present case, no recurrence of penile tumor or of condyloma was noted during follow-up for more than 12 months after treatment. The patient is very satisfied with the cosmetic and functional results following preservation of the penis.

Keywords chemotherapy; condyloma acuminatum; penile cancer; penile preservation; phimosis

Copyright © 2011, Taiwan Surgical Association. Published by Elsevier Taiwan LLC. All rights reserved.
1. Introduction

Giant condyloma acuminatum (GCA) is a rare, sexually transmitted disease. A GCA is a slow-growing, large, cauliflower-like tumor that occurs in the anogenital region. Although histologically benign the tumor behaves in a malignant fashion; it infiltrates the surrounding tissues, and occupies a position between an ordinary condyloma acuminatum and squamous cell carcinoma.1

Thanks to improved cancer survival rates, it is becoming increasingly important to focus on the sexual implications of cancer treatment.5 Of all urogenital cancers, penile cancer is the most hazardous with regard to potential impairment of sexual function. The more invasive procedures can reduce patients’ chance of enjoying their sexual life.6 In a study of sexual function after partial penectomy for penile cancer, it was found that, in 50% of sexually abstinent patients, shame about small penis size and absence of the glans penis was the main reason for not resuming sexual intercourse.6

We report here a case of GCA with penile cancer transformation that was successfully managed with penile preservation. We also review and discuss the literature related to GCA transformed to penile cancer.

2. Case report

A 74-year-old man came to our hospital for help in January 2008, complaining of discomfort on micturition for several days, together with ulcerative lesions at the penile base with a yellowish discharge of pus. On examination there was phimosis with redness of the foreskin. The patient reported that he had had diabetes mellitus and hypertension for several years, but took no regular medication; he denied having had any unprotected sexual intercourse. The initial impression was that the patient had balanoposthitis and he was treated with antibiotics and regular wound care, but healing of the ulcerative lesions was poor. Evaluation for sexually transmitted diseases revealed no evidence of syphilis, genital herpes or human immunodeficiency virus (HIV) infection.

Once the infection was controlled, a dorsal slit was made in the foreskin; this revealed several hard nodules on the coronal sulcus. Biopsy was performed, and histological examination showed a giant condyloma acuminatum (Fig. 1). Wide excision with electrocauterization was performed several times, but the condyloma soon recurred and healing of the surgical wound was poor (Fig. 2). After another wide excision and electrocauterization of the penile condyloma, 5-fluorouracil and silver sulfadiazine ointments were applied topically to the open wound. There was no further recurrence of the condyloma and the foreskin was successfully reconstructed 2 weeks later (Fig. 3).

Although the condyloma did not recur during follow-up, one hard nodule was noted in the penile shaft 7 months later. Wide excision of the penile mass was performed, and histological examination showed squamous cell carcinoma with subepithelial invasion (pT1), grade 2 (Fig. 4). Initially, using a portable pump, the patient was infused continuously with 50 mg of methotrexate every 24 h until thrombocytopenia developed. For further management of the penile cancer,7 adjuvant intra-arterial chemotherapy with methotrexate (50 mg) and fluorouracil (0.5 g) was administered weekly for 1 year at an outpatient clinic. The most prominent side-effects of the drug were skin rash, leukopenia, and anorexia. The patient experienced no complications. He has received close follow-up for more than 12 months at our outpatient clinic, and no recurrence of either the penile tumor or the condyloma has been noted (Fig. 5). He is very satisfied with the cosmetic and functional results achieved with preservation of his penis.

3. Discussion

Giant condyloma acuminatum is often caused by infection with human papillomavirus (HPV) types 6, 11 and 16.8–10 This tumor mainly affects the anogenital region. The aggressive nature of the lesion may result in inflammation,
infection or hemorrhage. Giant condyloma acuminatum is a rare lesion that tends to present in the fifth decade with a 2.7:1 male:female ratio. In patients under 50 years of age, the male:female ratio increases to 3.5:1. Risk factors for CGA include poor personal hygiene, HIV infection, chronic irritation and immunosuppression.

Although GCA is benign, the tumor has been reported to have a high rate of local recurrence and malignant transformation to squamous cell carcinoma. HPV, known to cause condylomata acuminata, is also known to induce squamous cell carcinoma. Some studies support the hypothesis that GCA is a lesion intermediate between condyloma acuminatum and squamous cell carcinoma. The risk of recurrence after excision is 60–66%, with an overall mortality of 20–30%. Malignant transformation has been reported in 30–56% of cases. In spite of this, GCA can coexist with squamous cell carcinoma in up to 50% of patients. Therefore, repeated histologic examinations of condyloma acuminatum are needed to diagnose possible malignant transformation.

In cases where penile cancer is staged at Ta-1G1-2, a penis-preserving strategy is strongly recommended. Conservative therapies include the following: (1) laser therapy (cardon dioxide or Nd:YAG); (2) cryotherapy; (3) photodynamic therapy; (4) topical imiquimod 5% or 5-fluorouracil (5-FU) cream; (5) local excision; (6) Mohs surgery plus reconstructive surgery; (7) radiotherapy or brachytherapy; and (7) glansectomy. With traditional conservative surgery, the overall recurrence rate is quite high. However, with adjuvant intra-arterial chemotherapy, recurrence rates are significantly reduced. Headache and chemotherapy-induced nausea are common side effects of chemotherapy. The most significant adverse effect is acute renal failure, which is reversible with supportive care. Although GCA is a benign condition, it is important to monitor patients for potential malignant transformation.

Figure 3  Foreskin reconstruction after successful eradication of penile condyloma. Shown here are (A) the preoperative appearance; and (B) the postoperative appearance.

Figure 4  Histological examination of the penile mass excised after successful treatment of giant condyloma acuminatum showed squamous cell carcinoma with subepithelial invasion.

Figure 5  Close follow-up for more than 12 months has found no recurrence of condyloma or penile cancer after wide tumor excision and adjuvant intra-arterial chemotherapy.
variable, from 11% to 50%. For example, Schlenker et al observed that on follow-up for 78.1 months (mean), the local recurrence is about 31%. However, no significant difference in the local recurrence rate (which varies between 15% and 25%) has been noted among different conservative therapy methods.

Following partial penectomy, 66.7% of patients sustained the same frequency and level of sexual desire as before surgery, and 72.2% continued to have ejaculation and orgasm every time they had sexual stimulation or intercourse. However, only one-third of patients retained their preoperative frequency of sexual intercourse and were satisfied with their sexual relationship with their partners and their overall sex life, the main reason being self-consciousness about the reduced length of the penis and the absence of a glans. Therefore, conservative treatment should aim to preserve as much as possible of the penis in order to minimise impairment of sexual activity.

For patients who develop both GCA and squamous cell carcinoma, the optimal treatment remains to be determined. The patient reported here presented with penile cancer transformation more than 6 months after successful treatment of GCA. The penile cancer was managed by wide tumor excision and adjuvant intra-arterial chemotherapy with methotrexate. The clinical response was good and the tumor excision and adjuvant intra-arterial chemotherapy can be suggested to patients with a small and early-stage penile cancer resulting from malignant transformation of a GCA. However, in the light of high local recurrence rates and to prevent further recurrences, long-term follow-up (for more than 12 months) is necessary. And close observation is obviously necessary while the long-term recurrence rates for these techniques are not yet fully established.

4. Conclusion

Penile cancer transformation may occur even after successful eradication of GCA. Sexual dysfunction and dissatisfaction are common following a cancer diagnosis and are exacerbated by treatments. It is important to introduce treatment choices that offer patients the best chance to maintain sexual function. Hence, management with penile preservation by wide tumor excision and adjuvant intra-arterial chemotherapy can be suggested to patients with a small and early-stage penile cancer resulting from malignant transformation of a GCA. However, in the light of high local recurrence rates and to prevent further recurrences, long-term follow-up (for more than 12 months) is necessary. And close observation is obviously necessary while the long-term recurrence rates for these techniques are not yet fully established.

References