

LETTERDERMATOLOGIC
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Buschke-Lowenstein tumor: Use of dermal matrix for reconstruction of genital area

Dear Editor,

Buschke-Lowenstein tumor (BLT) is a rare giant condyloma acuminatum of the anogenital region, first described by Buschke and Lowenstein as a potential malignant condyloma acuminatum.¹ The incidence is estimated to be 0.1% in the general population. The disease affects men more frequently than women (ratio = 2.7:1); the mean age of onset is approximately 45 years.² BLT usually emerges as a slowly growing cauliflower-like tumor of the anogenital region, which easily infiltrates the adjacent tissues.³ BLT is a sexually transmitted disease; human papillomavirus (HPV) is an important factor in its development. BLT is always preceded by anogenital warts, but just a few cases of condyloma acuminatum turn into BLT. Smoking, multiple sexual partners, anaerobic infections, local chronic inflammation, and immunodeficiency are possible risk factors.⁴ High recurrence rates after resection and elevated incidence of malignant transformation into an invasive squamous cell carcinoma are features of BLT.⁵ Wide surgery is considered the mainstay of treatment.¹⁻⁶

A 64-year-old Moroccan man was referred to our dermatology department with a 10-year-history of a growing mass in the genital region. He denied a history of immunodeficiency syndromes. On physical examination, an extensive verrucous cauliflower-like mass was

localized on inguinal folds, pubic region, penis and perineum (Figure 1). Inguinal lymph node palpation was normal. Routine blood tests and serological tests for syphilis, HIV, HBV, and HCV were negative. Histological examination of an intralesional biopsy specimen showed a moderate degree of dysplasia of the epithelium with koilocytosis atypia, acanthosis, and parakeratosis. PCR assay for HPV showed an infection with HPV Type 6. A diagnosis of giant condyloma acuminatum was made based on clinical and histopathological features. The patient underwent an abdominal-pelvic MRI scan that showed a genital mass with an intense contrast enhancement, without infiltration of deeper tissues. Inguinal lymph nodes were seen as reactive, nonmetastatic. We opted for a two-stage surgical procedure. The first stage consisted in tumor removal with clinically safe margins (Figure 2A) and positioning of an Integra Matrix Wound Dressing (Integra LifeSciences Corporation) (Figure 2B). Negative Pressure Therapy (VACUIta, KCI) was then applied as postoperative dressing to keep the matrix in position, without interrupting the silicone sheet (Figure 2C).⁷ The final histological report confirmed the bioptic diagnosis of BLT, with margins free of disease. After 3 weeks, the silicone top layer was removed (Figure 3A), and the second-stage reconstruction was performed. A thin split-thickness skin graft (0.3/0.45 mm) was harvested with electric



FIGURE 1 Buschke-Lowenstein tumor. The large verrucous and exophytic mass was localized on inguinal folds, pubic region, penis, and perineum

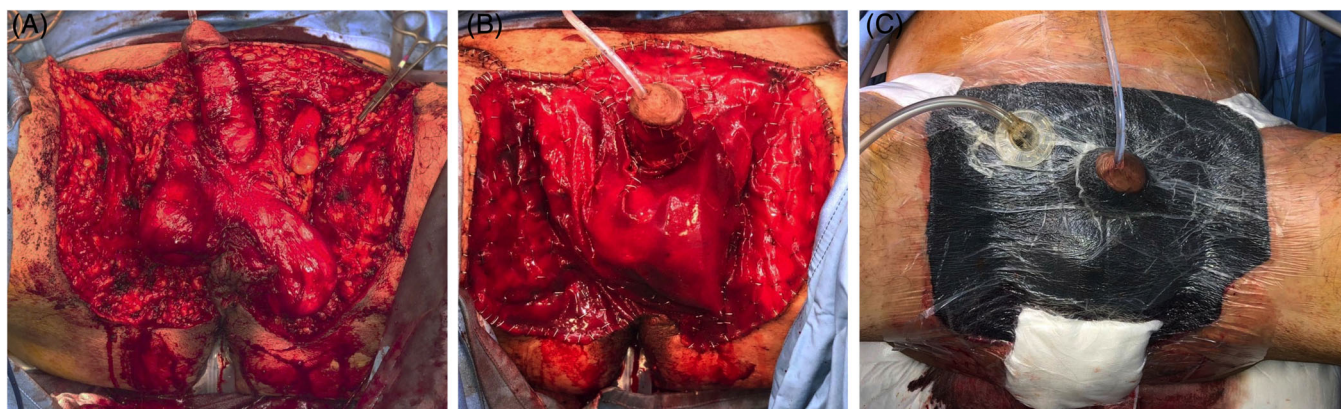


FIGURE 2 First-stage surgical procedure. A, The defect after tumor resection with clinically safe margins of 2 cm laterally and down to deep muscular fascia is shown. B, Dermal matrix (Integra Matrix Wound Dressing) was positioned over the surgical wound and it was secured to the edges of the gap with surgical staples. C, Negative Pressure Therapy (VACUIta, KCI) was applied as postoperative dressing

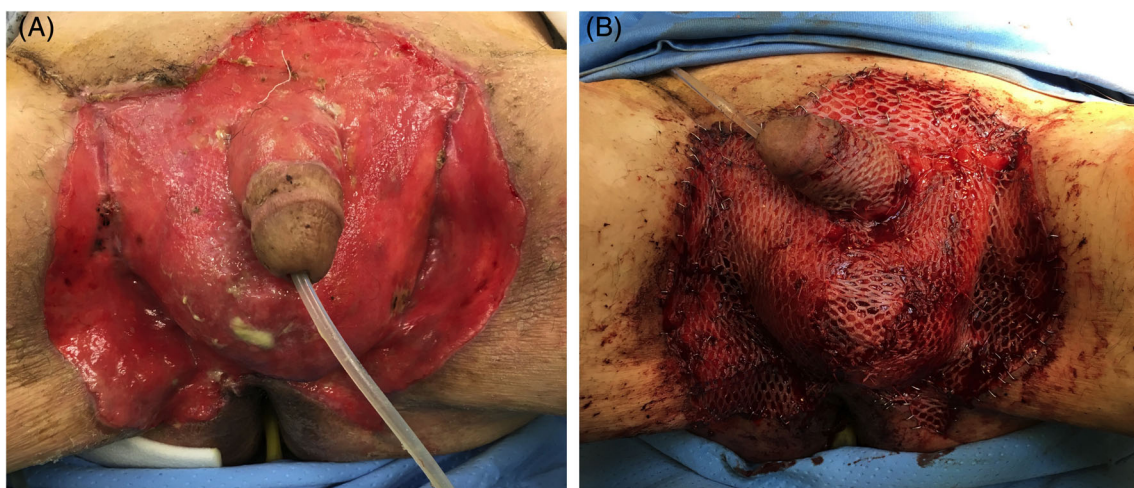


FIGURE 3 Second-stage surgical procedure. A, Surgical wound after the removal of the silicone top layer of the Dermal matrix (Integra Matrix Wound Dressing) is shown. B, A thin split-thickness skin graft (0.3/0.45 mm), harvested with electric dermatome (Zimmer The Dermatome) and expanded with a graft-mesher (The Zimmer Skin Graft Mesher), was secured with staples to the recipient area

dermatome (Zimmer The Dermatome) and was expanded using a graft-mesher (The Zimmer Skin Graft Mesher), with a mesh ratio of 1:2 (Figure 3B). Intravenous antibiotic therapy was given during the first postoperative week (Cefazolin 1 g every 8 hours for 24 hours, followed by Piperacillin/Tazobactam 4.5 g every 8 hours for a week). Complete healing was obtained within a month after the last surgery (Figure 4A). At the 1 year follow-up, the patient still presented an adequate reconstruction of the area and an acceptable cosmesis, without any complication or signs of recurrences (Figure 4B).

After wide surgical excision of BLT, the most appropriate reconstructive technique depends primarily on the size and on the depth of the perineal defect. In recent years, the introduction of dermal matrices, such as Integra, provides new possible solutions for large superficial defects.⁸ Integra is a dermal regeneration template that helps to prepare the defect to receive the skin graft: the silicone layer temporarily covers the wound to avoid infections and to control fluid and heat loss; the collagen matrix promotes the

development of a neodermis in 3 to 6 weeks.⁹ The dermal matrix, with its thickness, reduces the depressed appearance of the grafted area and the risk of contracture; moreover, it preserves the margins of the tumor bed and allows a temporary coverage while waiting for pathology report.

In conclusion, our positive experience supports the use of dermal matrix for genital reconstruction after surgical removal of a large tumor area.

CONFLICT OF INTEREST

Alessandra Grazia Condorelli, Barbara Ferrari, Mariangela Francomano, Bernardo Rocco, Maria Chiara Sighinolfi, and Marco Pignatti report no conflict of interest; Luca Giacomelli received honoraria from Eisai, LeoPharma, Grunenthal, Pierre-Fabre, Indena, Abbvie, CRL Behring, Santhera, Recordati and Integra; Cristina Magnoni received honoraria for a wound reconstruction intermediate training from Integra Lifescience.

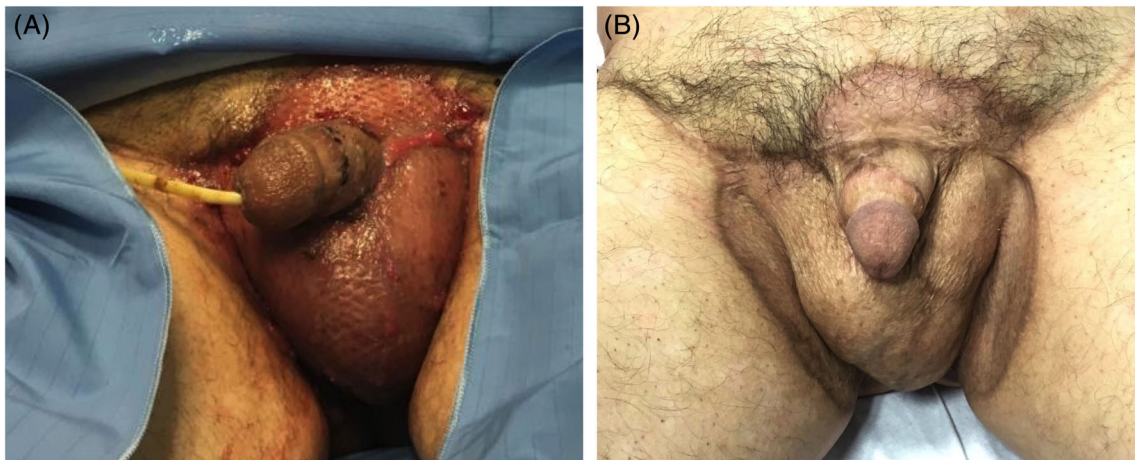



FIGURE 4 Postoperative progress. A, One month follow-up. A complete healing was obtained. B, One year follow-up. The interested area did not show any sign of recurrence with an acceptable aesthetic result

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