Case Report ISSN 2639-8478

Cancer Science & Research

Giant Perineal Condyloma Acuminatum: A Case Report

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Received: 26 Jun 2026; **Accepted:** 04 Aug 2026; **Published:** 16 Aug 2026

Citation: Dos Santos Ramírez Jéshua, García González Walter, Castillo Hernández Oscar. Giant Perineal Condyloma Acuminatum: A Case Report. Cancer Sci Res. 2026; 9(3): 1-5.

ABSTRACT

Giant condyloma acuminatum (GCA), also known as the Buschke-Löwenstein tumor (BLT), is a rare, locally aggressive lesion of the anogenital region caused by human papillomavirus (HPV) infection, with potential for malignant transformation and a high recurrence rate after treatment. We report the case of a 47-year-old multiparous woman with a seven-year history of an untreated, slow-growing perineal lesion that ulcerated and began to bleed actively seven months before presentation. Physical examination revealed an extensive exophytic, cauliflower-like lesion extending from the perineum to both gluteal regions, the sacrum, and the vaginal introitus, measuring approximately 20 × 15 cm. Serologic testing for HIV, syphilis, and hepatitis was negative. An incisional biopsy confirmed HPV-associated condyloma acuminatum without malignancy. Given the extent of disease and its proximity to the anal sphincter complex, the case was discussed in a multidisciplinary tumor board, and neoadjuvant radiotherapy (50 Gy in 25 fractions) was administered, achieving a partial response with more than 50% reduction in lesion size. Wide surgical resection with electrofulguration was subsequently performed; intraoperative findings showed infiltration of the anal sphincter, levator ani, and anococcygeal ligament. The final specimen showed macroscopically positive margins but no histologic evidence of malignant transformation. The patient had a favorable postoperative course, with wounds healing by secondary intention, and received adjuvant nonavalent HPV vaccination one month after surgery. This case illustrates the value of a multidisciplinary, organ- and function-preserving approach combining neoadjuvant radiotherapy and surgery in the management of giant anogenital condylomas, and highlights the potential role of adjuvant HPV vaccination in this setting.

Keywords

Buschke-Löwenstein tumor, Condyloma acuminatum, Human papillomavirus, Perineal neoplasm, Radiotherapy.

Abbreviations

BLT: Buschke-Löwenstein tumor, CT: Computed tomography, GCA: Giant condyloma acuminatum, HIV: Human immunodeficiency virus, HPV: Human papillomavirusm, VDRL: Venereal Disease Research Laboratory test.

Introduction

Giant condyloma acuminatum (GCA), also known as the Buschke-Löwenstein tumor (BLT), was first described in 1925 as an exophytic, carcinoma-like condylomatous lesion of the penis [1]. It is a rare, locally aggressive lesion of the anogenital region strongly associated with human papillomavirus (HPV) infection, most commonly low-risk genotypes 6 and 11 [2]. Although originally reported on the penis, BLT is now recognized to affect the vulva, vagina, perineum, scrotum, and perianal region [3]. Despite its benign histology, BLT behaves as a locally malignant process characterized by progressive exophytic growth and destruction of adjacent tissue, with reported recurrence rates after treatment ranging from 56% to 70% [3]. Malignant transformation to squamous cell carcinoma has been documented in a substantial proportion of cases, contributing to an overall mortality rate as high as 20–30% [4].

The rarity of BLT, estimated at a prevalence of 0.1%, together with its potential to invade functionally critical structures such as the anal sphincter complex, poses substantial diagnostic and therapeutic challenges [3]. No standardized treatment guideline currently exists [5]. Wide surgical excision with clear margins remains the

cornerstone of therapy; however, extensive or circumferential disease may require radical resection that compromises anal continence, necessitating reconstructive procedures or diverting colostomy [6]. In such settings, neoadjuvant strategies—including radiotherapy and chemoradiation—have been employed to reduce tumor burden prior to surgery and to facilitate sphincter-preserving resection [7].

We report the case of a woman with a seven-year history of an untreated giant perineal condyloma acuminatum, extensively involving the perianal, gluteal, sacral, and vaginal introital regions, successfully managed with neoadjuvant radiotherapy followed by wide surgical resection—illustrating a multidisciplinary, organ-preserving approach to this challenging disease in a resource-limited setting.

Case Presentation

Clinical History

A 47-year-old multiparous woman (gravida 4, para 4, abortus 0; four vaginal deliveries, no cesarean sections), with no relevant past medical, surgical, traumatic, or allergic history, presented with a perineal lesion of seven years' duration. The lesion had grown slowly and remained untreated until seven months prior to presentation, when it ulcerated with associated active bleeding, prompting evaluation at a national hospital. Following an initial biopsy, she was referred to our institution (Institute of Cancerology, INCAN, Guatemala) for further management.

Physical Examination

On admission, the patient's Karnofsky performance status was 80%. She had generalized pallor. The neck was without palpable lymphadenopathy, and the breasts and chest were unremarkable. The abdomen was soft, non-tender, and without masses. The right inguinal region showed no palpable adenopathy, while a single mobile 1-cm lymph node was palpated in the left inguinal region.

Figure 1: Clinical appearance of the giant perineal condyloma acuminatum at initial consultation, showing an extensive exophytic, cauliflower-like lesion involving the perianal, gluteal, and sacral regions.

Examination of the external genitalia revealed an extensive exophytic, cauliflower-like lesion extending from the perineal region to both gluteal areas, the sacrum, and the vaginal introitus, measuring approximately 20 × 15 cm (Figure 1). Digital rectal examination revealed no intraluminal lesions, and gynecological evaluation showed a grossly healthy-appearing cervix.

Diagnostic Work-up

A Papanicolaou smear was negative for malignancy. Serologic testing for HIV, syphilis (VDRL), and viral hepatitis was negative. Contrast-enhanced abdominal computed tomography (CT) showed a destructive exophytic lesion of the perianal region extending throughout the entire intergluteal fold and involving the vaginal introitus. Colonoscopy was normal, with no intraluminal lesions identified.

An incisional (wedge) biopsy of the lesion was performed, confirming the diagnosis of HPV-associated condyloma acuminatum, without histologic evidence of malignancy. Fine-needle aspiration biopsy (FNAB) of the palpable left inguinal lymph node was also performed and was negative for malignancy.

Management

Given the extensive size of the lesion and its proximity to the anal sphincter complex, the case was discussed in a multidisciplinary tumor board together with the radiation oncology department, and neoadjuvant radiotherapy was recommended. The patient received a total dose of 50 Gy in 25 fractions. A protective diverting colostomy was not performed, as the patient maintained adequate spontaneous defecation without obstructive symptoms, and fecal soiling of the wound was not considered a significant risk. Packed red blood cell transfusion was administered for severe anemia identified at presentation.

During the initial work-up, the patient developed leukocytosis and fever. Empiric antibiotic therapy with a cephalosporin, together with anti-inflammatory treatment, was initiated, resulting in clinical improvement with resolution of the leukocytosis and disappearance of the left inguinal lymphadenopathy.

Reassessment at mid-course of radiotherapy showed an early reduction in lesion size and bulk (Figure 2).

Figure 2: Clinical appearance of the lesion at mid-course of neoadjuvant radiotherapy, showing an early decrease in tumor bulk.

Three months after completing radiotherapy, the patient was reassessed by the surgical oncology department and showed a partial response, with more than 50% reduction in the initial lesion size (Figure 3).

Figure 3: Clinical appearance of the lesion three months after completion of neoadjuvant radiotherapy (50 Gy/25 fractions), showing a partial response with more than 50% reduction in size.

Wide surgical resection of the residual lesions with electrofulguration was subsequently performed. Intraoperative findings revealed multiple perianal lesions infiltrating the anal sphincter, levator ani, puborectalis and iliococcygeus muscles, and the anococcygeal ligament, involving an area of approximately 10 × 8 cm; the lesion surrounded the posterior aspect of the anal margin without infiltrating it, and extended to the posterior aspect of the distal third of the vagina and vulva (Figure 4).

Figure 4: Intraoperative view of the surgical field after wide resection of the perianal and gluteal lesions.

The surgical specimen (Figure 5) showed macroscopically positive margins; however, the final histopathological examination did not identify any focus of malignant transformation.

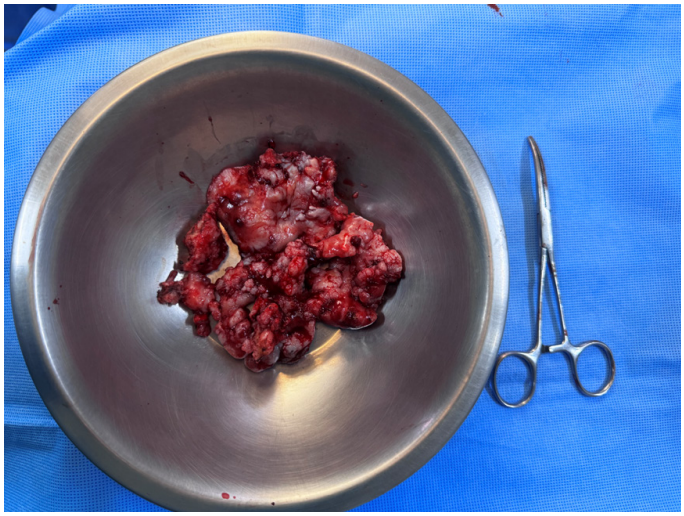

Figure 5: Gross surgical specimen following wide resection of the giant perianal condyloma acuminatum.

Outcome and Follow-up

The patient had a favorable postoperative course. The surgical wounds were managed to heal by secondary intention (Figure 6). Nonavalent HPV vaccination was recommended from the outset of treatment; due to initial financial constraints, access was secured through a donation program, and the first dose was administered one month after surgery.

Figure 6: Postoperative wound at one week after surgery, healing by secondary intention.

Discussion

Giant condyloma acuminatum represents the extreme end of the clinical spectrum of anogenital HPV disease, distinguished from classic condyloma acuminatum by its large size, locally destructive growth pattern, and malignant potential [8]. Risk factors described in the literature include chronic HPV infection, immunosuppression, diabetes mellitus, tobacco use, poor hygiene, and multiple sexual partners [5]. In the present case, the patient had no identifiable immunosuppressive condition; however, the seven-year duration of untreated disease likely contributed to the extensive local growth observed at presentation.

The differential diagnosis of a large exophytic anogenital mass is broad and includes cutaneous squamous cell carcinoma—including verrucous, warty, and papillary variants—primary rectal adenocarcinoma, Bowenoid papulosis, and lymphangioma [9], underscoring the importance of adequate tissue sampling prior to definitive treatment, as was performed in this case with an incisional wedge biopsy confirming condyloma acuminatum without malignancy.

Surgical excision with tumor-free margins remains the gold-standard treatment for BLT, given the persistently high recurrence rates reported across all other therapeutic modalities [3]. However, in patients with extensive, circumferential, or sphincter-involving disease—as in the present case, where the lesion infiltrated the anal sphincter complex, levator ani, and anococcygeal ligament—primary radical resection may require permanent colostomy or extensive reconstruction. Several groups have used neoadjuvant chemoradiotherapy, typically combining pelvic radiotherapy (45–59.4 Gy) with mitomycin-C and 5-fluorouracil, to achieve tumor downsizing and sphincter preservation prior to surgery [7,10]. In our patient, radiotherapy alone (50 Gy in 25 fractions) achieved a partial response exceeding 50% tumor size reduction, allowing a less extensive resection than would otherwise have been required, consistent with reports describing radiotherapy as a viable, though controversial, neoadjuvant option in selected patients [10].

Beyond surgery and chemoradiation, multiple alternative and adjunctive treatments have been reported with variable success, particularly in patients who are poor surgical candidates or wish to avoid disfiguring resection. Topical imiquimod 5%, an immunomodulatory agent that stimulates local interferon-alpha production, has achieved complete regression of giant vulvar condylomas in selected cases, including lesions comparable in size to the present case [12]. Combination approaches—such as imiquimod followed by high-intensity focused ultrasound for recalcitrant lesions, or imiquimod combined with cryotherapy and podophyllotoxin—have also shown efficacy, particularly for extragenital or functionally sensitive locations where surgery is limited [13]. Other reported modalities include CO2 and Nd:YAG laser ablation, topical cidofovir, and intralesional interferon, among others. Despite this range of options, no single non-surgical modality has proven superior, and recurrence remains common across all approaches [3].

A distinctive feature of this case was the adjuvant administration of nonavalent HPV vaccination one month after surgery. Although prophylactic HPV vaccines are primarily indicated for the prevention of incident infection, growing evidence supports a role for adjuvant vaccination in reducing recurrence after surgical treatment of HPV-related anogenital disease. A systematic review and meta-analysis found that HPV vaccination administered around the time of surgical treatment significantly reduced the risk of recurrent or persistent HPV-related lesions [14] and a separate meta-analysis of eleven studies demonstrated a significantly lower risk of recurrent high-grade cervical dysplasia in vaccinated versus unvaccinated patients (OR 0.35, 95% CI 0.21–0.56) [15]. More recently, a randomized, placebo-controlled trial evaluating nonavalent HPV vaccination to prevent recurrence of anal and vulvar high-grade squamous intraepithelial lesions has further reinforced this rationale [16]. Although this evidence base derives predominantly from high-grade squamous intraepithelial lesions rather than BLT specifically, the shared HPV-driven pathophysiology supports the extrapolation of adjuvant vaccination as a reasonable, low-risk adjunct in similarly affected patients, particularly given the high baseline recurrence risk of BLT.

An important limitation of the present case is the presence of macroscopically positive margins in the final surgical specimen, despite the absence of malignant transformation on histopathology. This finding places the patient at elevated risk for local recurrence and underscores the need for close, long-term clinical surveillance, including anoscopy and physical examination at regular intervals, as recommended in prior series of surgically treated BLT [6,10]. The decision to avoid a diverting colostomy, based on preserved continence and low risk of fecal contamination, illustrates an individualized, organ- and function-preserving approach consistent with recent reports favoring conservative stoma use whenever clinically feasible [6].

Conclusion

Giant perineal condyloma acuminatum (Buschke-Löwenstein tumor) is a rare but locally aggressive HPV-related disease that poses considerable therapeutic challenges when left untreated for prolonged periods, as illustrated by the extensive, multi-compartment involvement observed in this case. A multidisciplinary approach combining neoadjuvant radiotherapy with subsequent wide surgical resection allowed effective tumor downsizing, sphincter preservation, and avoidance of a diverting colostomy, with favorable postoperative wound healing. Given the persistently high recurrence risk associated with BLT—further elevated in this case by macroscopically positive surgical margins—close long-term follow-up is essential. Adjuvant nonavalent HPV vaccination, supported by increasing evidence in other HPV-related anogenital diseases, was incorporated into this patient's management and may represent a valuable, low-risk adjunct to reduce recurrence, warranting further prospective study in patients with BLT specifically.

Acknowledgments

Written informed consent was obtained from the patient for the publication of this case report and the accompanying clinical images.

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