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journal homepage: www.casereports.comBuschke–Lowenstein tumour of glans penis[☆]Sunil Agarwal^{*}, Gaurav Kumar Nirwal, Harendra Singh

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ABSTRACT

INTRODUCTION: Buschke–Löwenstein tumour, also known as Giant condyloma acuminatum, is a rare, sexually transmitted disease that affects ano-genital region. BLT is a slow growing cauliflower-like tumour, locally aggressive and destructive. Human papillomavirus has been identified as an important contributory factor in the development of tumour.

PRESENTATION OF CASE: A 45 year uncircumcised male presented with complaints of cauliflower like growth on glans penis. Growth started as a small papule on the corona sulcus at 12 O'clock position 6 months back. Patient developed pain and dysuria due to compression of urethral meatus. Patient has history of multiple sexual partners.

DISCUSSION: BLT, first described by Buschke and Lowenstein in 1925. They observed a penile lesion that clinically resembled both common condyloma acuminata and squamous cell carcinoma, but differing from both of them regarding the biological behaviour and the histopathological appearance. GCA can be differentiated from ordinary condylomas by the characteristic “pushing” rather than “infiltrating” effect that tends to compress and displace the underlying tissue.

CONCLUSION: We have successfully treated a penile BLT with surgical excision and no relapse up to 6 months. Surgical excision could be considered an effective therapy in the treatment.

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1. Introduction

Buschke–Löwenstein tumour (BLT), also known as Giant condyloma acuminatum, is a very rare, sexually transmitted disease that affects the ano-genital region.^{1–3} BLT is a slow growing cauliflower-like tumour, but unlike simple condyloma, it is locally aggressive and destructive.⁴ It was originally described in 1896 by Buschke and Loewenstein in 1925 and later on was named by Loewenstein “carcinoma-like condylomata acuminata” of the penis.⁵ Although this is a well differentiated, benign lesion, its management is often challenging due to the size, rapidly growing, fungating variant, degree of local invasion, and recurrence rate. There is also elevated risk of malignant transformation towards squamous cell carcinoma.⁷ Human papillomavirus (HPV) has been identified as an important contributory factor in the development of tumour. DNA corresponding to 6 and 11 HPV subtypes has been frequently identified in typical cauliflower-like lesions, suggesting the pathogenic role of the virus in the initiation and progression of the tumour.^{8,9} A proper biopsy must be wide and deep enough to accurately determine the extension of infiltration of the tumour and the possible presence of a squamous cell carcinoma. The article

describes a case of Buschke–Loewenstein tumour, an analysis of the clinical and laboratory diagnosis, as well as the chosen treatment approach.

2. Case report

A 45 year old uncircumcised male patient presented to NIMS Hospital, Jaipur with complaints of cauliflower like growth on glans penis. The growth started as a small papule on the corona sulcus at 12 O'clock position 6 months back, which gradually increased in size and extent. It involved upper 2/3rd of the glans resulting in early distortion of glance including urethral meatus. Patient also developed pain and dysuria due to compression of urethral meatus. Patient gives the history of multiple sexual partners.

Although lymphadenopathy was not apparent but a probable diagnosis of carcinoma penis was suspected. Laboratory tests revealed normal liver and kidney functions test. Serology for Hepatitis B was reactive. Serologies for Hepatitis C, HIV and syphilis had nonreactive results (Figs. 1–6).

Under General Anaesthesia Incisional Biopsy of the tumour was taken and send for Histopathological examination. Histopathological examination of the tumour revealed Giant Condyloma Acuminata/Buschke–Loewenstein tumour showing hyperkeratosis, papillomatosis and acanthosis of squamous epithelium. There was vacuolization of keratinocytes and koilocytosis. The tumour tissue shows infiltration by lymphocytes.

Patient was initially not willing for surgery, so was advised for Ointment Podophyllum application but no significant results

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Fig. 1. Showing the posterior view of glans penis.



Fig. 3. Showing eroded corona of glans penis.

were obtained in 4 weeks. So, partial glansectomy and immediate reconstruction of glans penis with preputial flap and meatoplasty was done under General Anaesthesia. Electrocauterization was also done. Attempt was made to conserve glans.

2.1. Procedure

Conservative surgery of glans penis was done through a circumferential subcoronal incision of about 5 mm from corona in order to retract the penile shaft skin. Provided margins measured at least 5 mm, a deep tumour shaped incision was made on the glans and the surrounding tissue was meticulously excised. Once the margins were free, glans reconstruction and meatoplasty was satisfactorily achieved by using the preputial and coronal pedical flap.

2.2. Follow up

Patient was followed for a period of 6 months. He was able to resume his sexual function after 3 months, with good penile erection. There was no relapse of the tumour up to 6 months.



Fig. 2. Showing the anterior view of glans penis.

3. Discussion

BLT was first described by Buschke and Lowenstein in 1925.¹⁰ They observed a penile lesion that clinically resembled both common condyloma acuminata (venereal warts) and squamous cell carcinoma, but differing from both of them regarding the biological behaviour and the histopathological appearance.³² They described it as ‘cauliflower-like growth usually localized to the glans penis’ and considered it to be a low-grade, well-differentiated carcinoma displaying a marked tendency to compress and displace deeper tissues.¹⁰

GCA can be differentiated from ordinary condylomas by the characteristic “pushing” rather than “infiltrating” effect that tends to compress and displace the underlying tissue.¹⁷

Features of Buschke–Loewenstein tumours are ulcerated, fungating masses, and the characteristic histological pattern is showing both endophytic and exophytic growth with undulating papillomatosis of densely keratinized, well-differentiated squamous epithelium.¹¹ CT scans can be used to demonstrate the exact location and extent of BLTs.¹²



Fig. 4. Operative procedure (partial glansectomy and meatoplasty).



Fig. 5. Post operative image of reconstructed glans penis with preputial flap and meatoplasty.

A high incidence of GCA has been reported in the homo and bisexual populations and recurrent aggressive GCA has been reported in HIV positive patients.²¹ It is well established that benign genital warts (condylomata) are caused by human papillomaviruses (HPV): HPV type 6 (HPV 6) or HPV 11 can be detected in over 90% of these lesions,^{18,19} and it has shown that in vitro infection of human cervical tissue explants with these HPV types elicited a histological picture typical for genital warts.²⁰

Treatment of GCA can be classified into three types: topical therapy (e.g., using podophyllin, fluorouracil, or radiotherapy), tumour removal (e.g., by cryotherapy using liquid nitrogen, CO₂ laser therapy, electrocautery, or surgical excision), and immunotherapy (e.g., using imiquimod).^{13–15} However, no gold standard currently exists



Fig. 6. Showing the post operative reconstruction of glans penis.

for treating this rare disease, and the choice of treatment depends largely on the physician's experience and skills.¹⁶

Podophyllin, although a useful topical remedy for ordinary condyloma acuminata, has repeatedly proved valueless for treating Buschke–Lowenstein's tumour.^{26–30} Such lesions, instead, are often subjected to electrocoagulation or surgical excision. In this patient, the lesion responded satisfactory to surgical excision and electrocoagulation.

The majority of authors agree that surgery is the treatment of choice and is effective especially in the early stages of the disease.²³ Wide local excision remains the mainstay of therapy, that can be followed, if it is necessary, by delayed split thickness skin grafts.^{1,22,24,25}

Hatzichristou et al.³¹ presented a series of cases in which they performed curative glansectomies, sparing the remainder of the penis. This may be an appropriate alternative in cases where the tumour is definitely limited to the glans.

4. Conclusion

BLT is a very rare sexually transmitted disease characterized by giant slow growing condyloma acuminatum that is, unlike simple condyloma, locally aggressive and destructive. It is fairly easily diagnosed. Although there have been isolated reports of successful treatment with various more-conservative modalities. Here we had successfully treated a penile BLT with surgical excision and no relapse up to 6 months. So surgical excision could be considered an effective therapy in the treatment.

5. Consent

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

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Conflict of interests

The authors declare no conflict of interests.

Ethical approval

Ethical approval has been given by the Ethical Committee in the Department of General Surgery. Reference number is 395/13.

Author contributions

Dr Sunil Kumar Agarwal contributed in study concept, treatment and guidance for article writing. Dr Gaurav Kumar Nirrwal contributed in study design, data collection, data analysis. Dr Harendra Singh contributed in interpretation and writing the paper.

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