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Case Series

Urology Section

Varied Presentations of Carcinoma Penis in India: A Case Series

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ABSTRACT

Penile cancer is an uncommon but significant malignancy affecting men, with a disproportionate burden in developing countries. India has one of the highest incidences of penile cancer in the world, with rates as high as 3.32 per 100,000 men. Socio-economic factors, limited awareness and social stigma contribute to delayed presentation and diagnosis, often resulting in advanced-stage disease at the time of treatment. This case series presents five patients diagnosed and treated for penile carcinoma at the Urology Department in the hospital over the past 12 months, from February 2023 to February 2024. The demographics, presenting symptoms, diagnostic findings, treatment plans, surgical outcomes, postoperative outcomes and follow-up were recorded. A delay in diagnosis of penile cancer was noted in all patients, owing to social stigma, neglect and social embarrassment, along with a lack of education. This series emphasises the critical need for public health education and initiatives focused on early detection and management of penile cancer. Breaking the silence around penile cancer by addressing social stigma and making healthcare more accessible can encourage men to seek help earlier- often allowing for simpler treatments and better outcomes. There is a clear need for ongoing research and larger community-based studies to develop consistent care guidelines and practical prevention strategies, especially for those most at risk.

Keywords: Penile carcinoma, Urology, Uro-oncology

INTRODUCTION

Penile cancer affects approximately 1 in 100,000 men worldwide, including squamous and non squamous cell carcinoma. It predominantly occurs in elderly men, with a mean age of 60 years [1]. A number of risk factors have been implicated in the pathogenesis of penile cancer. Among the most significant is infection with high-risk types of Human Papillomavirus (HPV), particularly HPV-16 and HPV-18, which are known to play a crucial role in carcinogenesis through the disruption of tumour suppressor pathways [1]. Other well-established risk factors include phimosis, chronic inflammation, poor genital hygiene and cigarette smoking. The accumulation of smegma due to poor hygiene and an unretractable foreskin may contribute to chronic irritation and increase oncogenic potential. Conversely, neonatal circumcision has been shown to confer a protective effect, presumably by reducing the risk of chronic infections and HPV acquisition [1,2].

Despite its relatively straightforward clinical presentation, the diagnosis of penile cancer is often delayed. This delay is frequently attributed to psychological barriers such as embarrassment, fear of mutilation, guilt, or denial, as well as limited awareness about the disease, especially in regions with low healthcare access or cultural taboos surrounding genital examination. As a result, many patients present at advanced stages when management becomes more complex and the prognosis worsens. Early recognition, patient education, and timely referral remain essential to improving outcomes [3]. This series includes patients who were admitted and operated on for penile carcinoma at our institution from February 2023 to February 2024.

CASE SERIES

Case 1

A 75-year-old male was referred to the department with the chief complaint of a non healing ulcer over the penis, accompanied by bloody discharge for the past 12 months. The patient reported a gradually enlarging ulcer on the glans penis, which occasionally bled and had a foul-smelling discharge. No pain or systemic symptoms were noted. He delayed seeking care due to embarrassment and limited health awareness. The patient was a known case of Type 2 diabetes mellitus for the past 15 years and was on oral hypoglycaemic drugs, although his condition was poorly controlled. He reported no smoking or alcohol use and had no history of multiple sexual partners. Family history was non contributory. On physical examination, an ulceroproliferative lesion of approximate size 4×3 cm was seen over glans [Table/Fig-1,2]. There was no palpable inguinal lymphadenopathy and the foreskin was unretractable (phimosis). Systemic examination was within normal limits. A provisional diagnosis of carcinoma of the penis, likely squamous cell carcinoma was given. The differential diagnosis included infectious ulcer (e.g., syphilis), chronic balanitis, squamous cell carcinoma was made.

[Table/Fig-1,2]: Case 1- Ulcero-proliferative lesion over glans. (Images from left to right)

Biopsy from lesion confirmed invasive squamous cell carcinoma. Blood tests showed elevated HbA1c. A final diagnosis of well differentiated squamous cell carcinoma of the penis (T2N0M0) was given. A total penectomy with bilateral superficial Inguinal Lymph Node Dissection (ILND) was planned. Adequate surgical margins were achieved. The wound healed well and no recurrence was observed at the six-month follow-up. The patient was advised to maintain regular glycaemic control and to undergo urological surveillance.

Case 2

A 74-year-old male patient presented with a painless swelling over the glans penis, which had gradually progressed over a duration of six months. There was no associated ulceration or discharge. The patient had been circumcised and had a history of hypertension, as well as a prior Stage I Johanson urethroplasty for an anterior urethral stricture. He denied any history of smoking or high-risk sexual behaviour. Family history was non contributory.

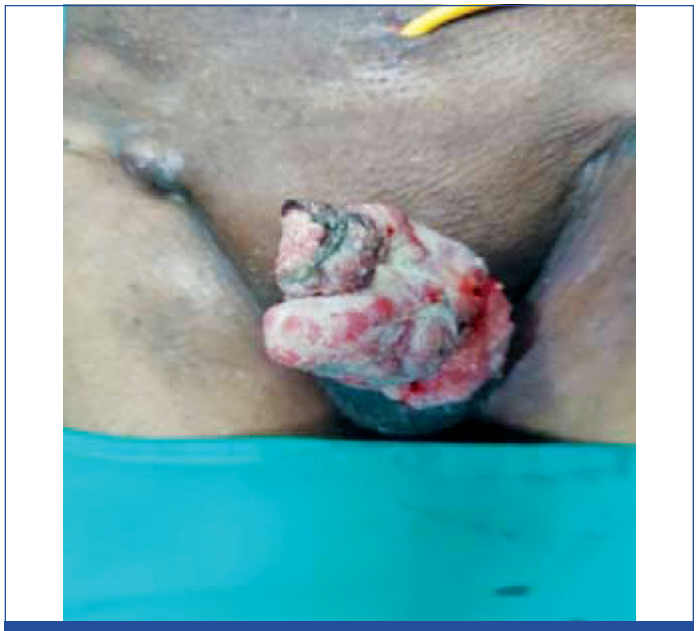
On examination, a firm nodular lesion was identified over the glans [Table/Fig-3]. There was no phimosis, and no palpable inguinal lymphadenopathy was noted. The systemic examination was within normal limits. A provisional diagnosis of a suspicious glans lesion, likely carcinoma, was made. Differential diagnoses included an epidermoid cyst, Peyronie's plaque, and malignancy.

[Table/Fig-3]: Case 2- Ulceroproliferative lesion in a case of Johanson stage 1 urethroplasty done for penile urethral stricture.

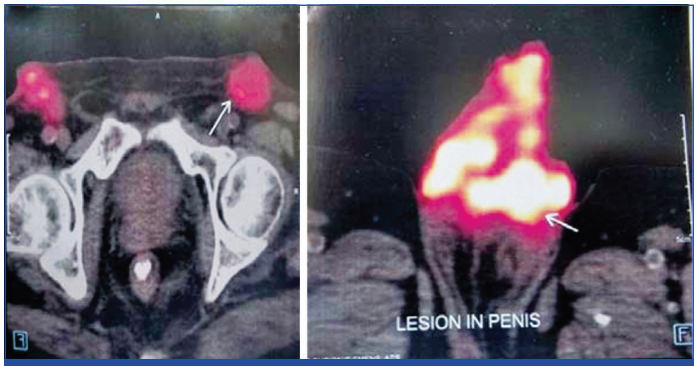
A biopsy of the lesion confirmed well-differentiated squamous cell carcinoma of the glans. The patient underwent partial penectomy with adequate margins. Postoperative recovery was satisfactory. At the six-month follow-up, there was no evidence of recurrence. Surveillance imaging was planned for ongoing follow-up.

Case 3

A 77-year-old male patient presented with a large penile growth associated with blood-stained and purulent discharge for the past 18 months. The lesion had progressively increased in size and was associated with Lower Urinary Tract Symptoms (LUTS). The patient had a known case of type 2 diabetes mellitus for 20 years but was not on regular treatment. He reported a history of smoking and multiple sexual partners. Family history was non contributory. On examination, a fungating, foul-smelling mass was noted, engulfing the entire penis and extending to the scrotum [Table/Fig-4]. Bilateral inguinal lymphadenopathy was present. Systemic examination revealed no evidence of distant metastasis. A provisional diagnosis of locally advanced penile carcinoma was made. Differential diagnoses included squamous cell carcinoma, genital tuberculosis, and severe chronic balanitis. An Fluorodeoxyglucose Positron Emission Tomography (FDG PET) scan was performed, which showed an FDG-avid penoscrotal lesion and bilateral FDG-avid inguinal lymph nodes [Table/Fig-5,6]. Magnetic Resonance Imaging (MRI) of the pelvis showed no evidence of pelvic invasion. A biopsy confirmed poorly differentiated squamous cell carcinoma. Clinical staging was T4N2M0. The patient underwent total penoscrotal amputation with perineal urethrostomy and bilateral orchidectomy. Postoperative recovery was uneventful. He was referred for palliative therapy but was subsequently lost to follow-up.



[Table/Fig-4]: Advanced penile carcinoma with bilateral inguinal lymph node involvement.



[Table/Fig-5,6]: FDG-PET of advanced penile carcinoma showing penile lesion and bilateral inguinal lymph node involvement. (Images from left to right)

Case 4

A 50-year-old male presented with a swelling and lump over the glans penis for six months. He had noticed a firm, progressively enlarging lesion on the glans without associated pain or discharge. He was uncircumcised and reported a history of smoking and multiple sexual partners. There were no significant past medical conditions and the family history was unremarkable. On examination, a firm nodular lesion was noted over the glans and distal penile shaft, along with phimosis [Table/Fig-7,8]. No palpable inguinal lymphadenopathy

[Table/Fig-7,8]: Case 4- Proliferative lesion over glans extending to the coronal sulcus.

was identified. The systemic examination was within normal limits. A provisional diagnosis of a suspicious penile lesion in a high-risk individual was made. Differential diagnoses included benign penile growth, penile carcinoma and inflammatory balanitis.

A biopsy confirmed moderately differentiated squamous cell carcinoma involving the glans and distal shaft. Clinical staging was T2N0M0. The patient underwent total penectomy with bilateral superficial ILND. The postoperative course was uneventful. At the six-month follow-up, he remained disease-free. Counselling was provided regarding smoking cessation and sexual health.

Case 5

A 60-year-old male patient presented with LUTS for four months, including a weak urinary stream and increased frequency. No visible penile lesions were initially noted. He had no significant past medical history, was a non smoker and denied any high-risk sexual behaviour. Family history was non contributory. On examination, there was induration of the glans and prepuce with phimosis [Table/Fig-9].

[Table/Fig-9]: Case 5- Indurated glans and penis with purulent dicharge.

No external ulceration or discharge was observed and there was no palpable inguinal lymphadenopathy. The systemic examination was within normal limits. A provisional diagnosis of urethral stricture or obstructive uropathy was considered. Differential diagnoses included urethral stricture and malignancy.

Cystoscopy revealed no urethral narrowing. However, a biopsy from the glans confirmed well-differentiated squamous cell carcinoma. The patient underwent partial penectomy. Postoperative recovery was uneventful, and at the five-month follow-up, he remained asymptomatic. Regular surveillance is ongoing.

Summary of all the cases have been presented in [Table/Fig-10,11].

DISCUSSION

Penile cancer is an uncommon malignancy, with an incidence of less than 1% of all malignancies in males, although the incidence rises to 10% in certain regions of Asia, Africa and South America [4]. It predominantly occurs in elderly men, with a mean age of diagnosis around 60 years. India has one of the highest incidences of penile cancer in the world, with rates as high as 3.32 per 100,000 men. Penile cancer is typically seen in elderly men and its incidence consistently increases with age [5].

The major risk factors for penile cancer include smoking, HPV infection, phimosis and poor hygiene. Penile cancers are more commonly observed in uncircumcised men, with a lifetime risk of 1 in 100,000, compared to 0.1 in 100,000 in Israel, where the majority of the population undergoes neonatal circumcision [2].

A delay in the diagnosis of penile cancer is well documented. In this series, an average delay of 9.2 months was observed. The reasons for this delay include embarrassment, fear, social stigma and neglect of symptoms, which lead to advanced presentations when patients seek medical attention. Several recent publications support these observations. A 2023 retrospective study from Indonesia involving 93 patients reported a younger mean age of presentation (49.4 years) and emphasised the prognostic value of early ILND [6]. An Indian case report in 2020 described a 32-year-old with extensive inguinoscrotal disease requiring multimodal therapy, highlighting the spectrum of rare presentations and the importance of individualised care [7].

All cases in this series were evaluated preoperatively and staged according to the 8th edition of the American Joint Committee on Cancer (AJCC) on the TNM cancer staging manual [8]. The presenting symptoms in this series were diverse, ranging from non

Case	1	2	3	4	5
Age (years)	75	74	77	50	60
Cigarette smoking	No	Yes	Yes	Yes	No
Multiple sex partners	No	No	Yes	Yes	No
Foreskin Status/penile surgery	Phimosis	Circumcised, h/o Johanson stage 1 urethroplasty	Phimosis	Phimosis	Phimosis
Location of tumour	Glans, distal half of shaft	Glans	Effaced penis extending into scrotum	Glans and distal shaft	Glans, prepuce
Co-morbidity	Diabetes Mellitus (DM)	Hypertension	DM	Nil	Nil
Duration of penile lump	12 Months	6 months	18 months	6 months	4 months
Presenting symptoms	Ulcer, bloody discharge	Swelling	Swelling, LUTS, bloody discharge	Swelling	LUTS

[Table/Fig-10]: Demographics and presentation of cases.

Case	1	2	3	4	5
Stage	T2N0M0	T1aN0M0	T4N2M0	T2N0M0	T1N0M0
Histology	Well differentiated SCC	Well differentiated SCC	Poorly differentiated SCC	Moderately differentiated SCC	Well differentiated SCC
Treatment for primary tumour	Total penectomy	Partial penectomy	Total penoscrotectomy with bilateral orchidectomy	Total penectomy	Partial penectomy
Treatment for lymph nodes	B/L superficial ILND	Surveillance	Advised palliative chemotherapy (lost to follow-up)	B/L superficial ILND	Antibiotics, surveillance

[Table/Fig-11]: Stages, treatment and follow-up status of cases.

healing ulcers and painless nodules to LUTS. While ulceroproliferative growth is the most commonly reported symptom, the possibility of hidden carcinoma should be suspected even in subtle or non specific complaints, such as LUTS with phimosis. Therefore, a high-index of suspicion and early biopsy of suspicious lesions are critical for timely diagnosis [9].

Surgical intervention remains the cornerstone of treatment for localised disease. The choice between partial and total penectomy depends on tumour size, location and grade. All five patients underwent surgical management—three patients had total penectomy and two had partial penectomy. ILND was performed in three patients, with findings guiding further management. The outcomes were favourable in those presenting earlier, reinforcing the benefit of timely surgery [10].

Given the strong association between HPV and penile cancer [11], preventive strategies such as HPV vaccination and male circumcision may reduce incidence. Moreover, public health initiatives focusing on genital hygiene, sexual education and reducing stigma are critical in low- and middle-income countries like India.

CONCLUSION(S)

Carcinoma of the penis is a common malignancy in India and must be detected at an early stage for better survival rates. There should be an increased focus on sexual education in our country, as well as a greater awareness of penile carcinoma and its early detection among elderly males.

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