

A Case Report

Penile Squamous Cell Carcinoma in Young Adults Presenting with Ulceration and Nodal Involvement: Two Case Reports

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ABSTRACT

Introduction: Penile squamous cell carcinoma (PSCC) is an uncommon malignancy, particularly among young adults. Delayed diagnosis may result in local invasion, lymph node metastasis, and adverse oncological outcomes. We report two cases of penile squamous cell carcinoma occurring in unusually young circumcised males.

Case Presentation: Case 1 involved a 26-year-old circumcised male who presented with a fungating ulcerative lesion involving the glans penis and distal shaft, associated with bilateral inguinal lymphadenopathy. Histopathological examination confirmed moderately differentiated squamous cell carcinoma with metastatic involvement of bilateral inguinal lymph nodes. The patient underwent partial penectomy with bilateral inguinal lymph node dissection and remained disease-free during one year of follow-up. Case 2 involved a 24-year-old circumcised male who presented with a localized ulcerative lesion on the glans penis. Histopathology confirmed squamous cell carcinoma without evidence of nodal involvement. The patient was successfully treated with wide local excision and remained disease-free after 24 months of follow-up.

Conclusion: Penile squamous cell carcinoma can occur in young adults despite its rarity. Persistent penile lesions should prompt early biopsy and appropriate staging investigations regardless of patient age. Early diagnosis and timely surgical management remain essential for improving clinical outcomes and reducing disease-related morbidity.

INTRODUCTION

Penile cancer is a rare malignancy, accounting for less than 1% of all male cancers in developed countries, although its incidence is higher in certain regions of Asia, Africa, and South America. More than 95% of penile malignancies are squamous cell carcinomas (PSCC), arising predominantly from the glans penis, prepuce, or coronal sulcus. The disease most commonly affects men between the fifth and seventh decades of life and is relatively uncommon in younger individuals. Several risk factors have been implicated in the development of penile squamous cell carcinoma, including human papillomavirus (HPV) infection, phimosis, poor genital hygiene, chronic inflammatory conditions, smoking, and immunosuppression. Circumcision performed during infancy has been shown to confer a protective effect; however, penile carcinoma may still occur in circumcised individuals, indicating that additional environmental, infectious, and genetic factors may contribute to disease pathogenesis. Patients typically present with a painless penile lesion, ulcer, nodule, or exophytic growth involving the glans or foreskin. Unfortunately, embarrassment, social stigma, and lack of awareness frequently delay medical consultation, resulting in advanced disease at presentation. Regional lymph node involvement remains one of the most important prognostic factors and significantly influences treatment strategies and long-term survival outcomes. The diagnosis of penile squamous cell carcinoma is established through histopathological examination, while clinical staging requires careful assessment of local tumor extent and regional lymph node involvement. Surgical excision remains the cornerstone of treatment, ranging from organ-preserving approaches for localized lesions to partial or total penectomy for advanced disease. Inguinal lymph node dissection may be necessary in patients with clinically significant nodal metastasis. Although penile squamous cell carcinoma is generally considered a disease of older men, its occurrence in young adults presents unique diagnostic and therapeutic challenges. We report two cases of penile squamous cell carcinoma in young circumcised males presenting with ulcerative penile lesions. The cases illustrate the diverse clinical spectrum of disease, ranging from localized carcinoma successfully managed with conservative surgery to advanced disease requiring partial penectomy and bilateral inguinal lymph node dissection.

CASE PRESENTATION

Case 1

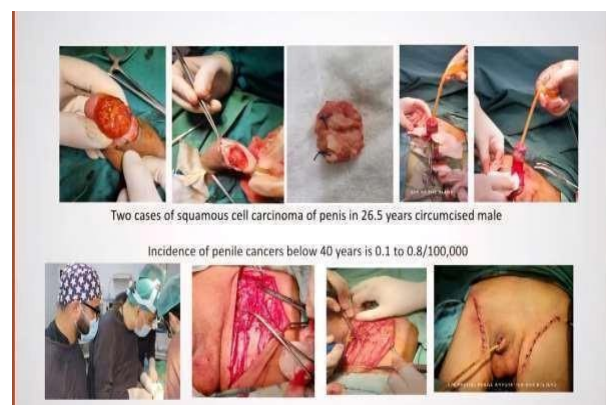
A 26-year-old circumcised male presented to the urology outpatient department with a progressively enlarging ulcerative growth over the glans penis for six months. The lesion was associated with intermittent bleeding, foul-smelling discharge, and discomfort during urination. The patient denied any history of sexually transmitted infections, genital trauma, or significant medical comorbidities. Physical examination revealed a fungating ulceroproliferative lesion involving the glans penis and extending to the distal penile shaft. Bilateral palpable inguinal lymph nodes were present, measuring approximately 2–3 cm in diameter, firm in consistency, and mobile. No evidence of distant metastasis was identified on clinical examination. A biopsy of the penile lesion was performed, and histopathological examination demonstrated moderately differentiated squamous cell carcinoma. Radiological evaluation showed bilateral inguinal lymphadenopathy without evidence of distant metastatic disease. The patient underwent partial penectomy with bilateral inguinal lymph node dissection. Histopathological assessment confirmed invasive moderately differentiated squamous cell carcinoma with metastatic involvement of bilateral inguinal lymph nodes. Surgical margins were free of tumor. The postoperative course was uneventful, and the patient remained disease-free during one year of follow-up.

Case 2

A 24-year-old circumcised male presented with a painless ulcerative lesion involving the glans penis that had gradually increased in size over a period of four months. The patient had no history of smoking, sexually transmitted infections, genital trauma, or significant medical illness. On examination, a localized ulcerative lesion measuring approximately 1.5 cm was identified on the glans penis. No palpable inguinal lymphadenopathy was detected. The remainder of the physical examination was unremarkable. An excisional biopsy was performed, and histopathological examination confirmed well-differentiated squamous cell carcinoma of the penis. Imaging studies showed no evidence of regional lymph node involvement or distant metastasis. The patient underwent wide local excision with preservation of penile anatomy and function.

Histopathological examination confirmed complete tumor excision with negative surgical margins. The postoperative recovery was satisfactory, and no evidence of local recurrence or metastatic disease was observed during 24 months of follow-up. The clinical presentations, surgical management, and outcomes of both cases are summarized in Figure 1.

Figure 1: Clinical Presentation of Penile Squamous Cell Carcinoma in Two Young Adults



Clinical photographs demonstrating ulcerative and exophytic penile lesions in two young circumcised males diagnosed with squamous cell carcinoma of the penis.

Figure 2: Partial Penectomy Specimen Following Surgical Excision



Intraoperative image showing partial penectomy performed for locally advanced penile squamous cell carcinoma with preservation of adequate surgical margins.

Figure 3: Bilateral Inguinal Lymph Node Dissection



Surgical dissection of enlarged inguinal lymph nodes performed for management and staging of metastatic nodal disease in Case 1

Figure 4: Localized Penile Squamous Cell Carcinoma



Localized ulcerative lesion involving the glans penis in Case 2 prior to surgical excision.

DISCUSSION

Penile squamous cell carcinoma (PSCC) is a rare malignancy, accounting for more than 95% of penile cancers worldwide. The disease predominantly affects older men, with the highest incidence reported between the fifth and seventh decades of life. Consequently, the occurrence of PSCC in young adults remains unusual and may contribute to delayed diagnosis because both patients and healthcare providers often consider malignant disease less likely in this age group [8,9]. The present report describes two young circumcised males aged 26 and 24 years who developed penile squamous cell carcinoma with markedly different clinical

presentations. The first patient presented with an advanced ulceroproliferative lesion associated with bilateral inguinal lymph node metastasis, whereas the second patient presented with a localized glanular lesion without nodal involvement. These contrasting presentations highlight the broad clinical spectrum of PSCC and emphasize the importance of early recognition and timely intervention. Several risk factors have been associated with the development of penile squamous cell carcinoma, including human papillomavirus (HPV) infection, phimosis, chronic inflammatory conditions, smoking, poor genital hygiene, and immunosuppression [10]. Circumcision performed during infancy has been shown to reduce the risk of penile carcinoma by preventing chronic inflammatory changes and phimosis. Nevertheless, both patients in the present report were circumcised, demonstrating that circumcision does not provide absolute protection against malignant transformation. Similar observations have been reported in recent studies documenting penile carcinoma in circumcised individuals, suggesting that additional environmental, infectious, and genetic factors may contribute to disease development [11]. The first case was characterized by delayed presentation and regional lymph node metastasis at diagnosis. Lymph node status remains the most important prognostic factor in penile cancer and significantly influences disease-specific survival [12]. Several studies have demonstrated that patients with inguinal nodal metastases experience substantially worse oncological outcomes than those with localized disease [13]. The presence of bilateral inguinal lymphadenopathy in our patient necessitated partial penectomy and bilateral inguinal lymph node dissection, which remains the standard treatment approach for locally advanced disease with clinically significant nodal involvement [14]. In contrast, the second patient presented with localized disease confined to the glans penis without evidence of regional or distant spread. Early-stage penile carcinoma can often be managed using organ-preserving surgical techniques, including wide local excision, laser therapy, or glanslectomy, depending on tumor size and location [15]. Organ-preserving approaches are particularly important in young patients because they help maintain urinary and sexual function while achieving satisfactory oncological control. The favorable outcome observed in the second patient supports previous evidence

indicating excellent long-term prognosis when penile cancer is diagnosed and treated at an early stage [16]. Histopathological examination remains the cornerstone of diagnosis and provides essential prognostic information. Both patients were diagnosed with squamous cell carcinoma, the most common histological subtype of penile cancer. Histological grade, depth of invasion, lymphovascular invasion, and nodal involvement are recognized predictors of recurrence and survival [17]. The moderately differentiated tumor identified in Case 1 was associated with metastatic lymph node involvement, whereas the localized lesion in Case 2 demonstrated less aggressive clinical behavior, emphasizing the importance of pathological assessment in treatment planning. Another noteworthy aspect of these cases is the relatively young age of presentation. Several recent reports have documented increasing recognition of penile squamous cell carcinoma among younger men, although the disease remains uncommon in this population [18]. Young patients may experience delays in diagnosis because malignant lesions are frequently mistaken for benign inflammatory, infectious, or traumatic conditions. This highlights the importance of maintaining a high index of suspicion for any persistent penile ulcer, mass, or non-healing lesion regardless of patient age [19]. Management of penile cancer requires a multidisciplinary approach involving urologists, pathologists, radiologists, and oncologists. Early diagnosis not only improves survival outcomes but also increases the likelihood of organ preservation and reduces treatment-related morbidity [20]. Public awareness regarding penile lesions and prompt referral to specialized centers may further contribute to earlier detection and improved prognosis. These two cases demonstrate the diverse clinical manifestations of penile squamous cell carcinoma in young adults. While one patient presented with advanced disease requiring radical surgical management, the other was successfully treated with organ-preserving surgery because of early diagnosis. The contrasting outcomes underscore the critical importance of early recognition, histopathological confirmation, accurate staging, and individualized treatment planning [21,22].

Conclusion

Penile squamous cell carcinoma is an uncommon malignancy in young adults but should be considered in the differential diagnosis of any persistent penile ulcer, mass, or non-healing lesion regardless of patient age. These two cases illustrate the diverse clinical spectrum of disease, ranging from localized tumors amenable to organ-preserving surgery to advanced lesions with regional lymph node metastasis requiring more aggressive management. Early biopsy, accurate staging, and timely surgical intervention remain essential for optimizing oncological outcomes, preserving function, and reducing disease-related morbidity. The present report further emphasizes the need for increased clinical awareness of penile carcinoma among young patients to facilitate earlier diagnosis and treatment.

Ethical Approval

Ethical approval was not required for this study because it describes two individual clinical cases and does not involve experimental interventions or human subject research. The manuscript was prepared in accordance with institutional and journal ethical standards.

Patient Consent Statement

Written informed consent was obtained from both patients for publication of their clinical information and accompanying images. Copies of the signed consent forms are available for review by the Editor upon reasonable request.

Data Availability Statement

All relevant clinical data supporting the findings of this report are included within the article. Additional information may be obtained from the corresponding author upon reasonable request while maintaining patient confidentiality.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this manuscript.

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All authors contributed substantially to the conception, data acquisition, interpretation of findings, manuscript preparation, critical revision, and final approval of the manuscript in accordance with the International Committee of Medical Journal Editors (ICMJE) authorship criteria.

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