

Case Report

A Challenging Surgical Approach to Locally Advanced Recurrence after Total Penectomy and Chemoradiotherapy for Penile Cancer: A Case Report and Literature Review

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Abstract

Introduction: Penile cancer is mostly Squamous Cell Cancers which arise from either chronic inflammation or an HPV infection. This cancer can be cured, but if it is not adequately treated, unnoticed spread along a regular pattern of local lymph nodes can ultimately have disastrous effects.

Discussion: Diagnosis of penile cancer is often made when a penile abnormality is noticed or after a chronic ulcer that was misdiagnosed as a sexually transmitted disease which didn't responded to therapy. Physical examination of the genitalia and inguinal nodes to determine the local extent of the disease and the existence of inguinal lymphadenopathy are the first steps in the workup for penile cancer. The most important indicator of survival is nodal status.

Conclusion: Advanced cancer penis with the involvement of other adjacent structures after recommended protocols can be safely dealt surgically with good acceptable surgical margins and needs proper reconstruction to cover the defect, surgical modality of management definitely improves the quality of life.

Keywords: Salvage surgery; Pubic rami resection; Penile cancer recurrence

Introduction

Penile cancer is mostly Squamous Cell Cancers which arise from either chronic inflammation or an HPV infection. This cancer can be cured, but if it is not adequately treated, unnoticed spread along a regular pattern of local lymph nodes can ultimately have disastrous effects. Although it usually first appears in the sixth decade of life, it can also affect males who are younger than 40 [1]. Poor local hygiene and phimosis are linked to penile cancer. Smegma, a byproduct of bacterial action on desquamated epithelial cells in the preputial sac, is widely known for its irritating effects, but there isn't enough proof to say whether or not it plays a part in the development of cancer. Penile carcinoma is almost completely prevented in newborns by circumcision; however, circumcision performed after puberty does not have the same protective effect [2].

Case Presentation

In this case we are presenting a case of recurrent carcinoma penis that had an advanced recurrence and was managed with resection of pubic bone and reconstruction with flap.

A 48 year old male with no medical comorbidities and no past surgical intervention, for recurrent urinary tract infection hematuria

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was evaluated by an urologist and was found to have an ulcer glans of penis with pan urethral stricture. Biopsy proved to be squamous cell carcinoma. Patient was evaluated with MRI pelvis which revealed a soft tissue thickening with enhancement of glans penis with involvement of corpora spongiosum and underwent Total penectomy and perineal urethrostomy. Later subjected to adjuvant chemotherapy and radiation. He was asymptomatic since then and has lost follow up after one and half year he presented with pain in the lower abdomen radiating to right thigh. He was evaluated with MRI and PET SCAN showed irregular thick rim enhancement with large central necrosis measuring 6.8 cm × 5.8 cm × 5.4 cm encasing the right ischiopubic ramus with cortical discontinuity and medially lesion infiltrating adductor magnus and obturator internus muscle. He was planned for surgery after discussing in MDT and he underwent wide local excision with composite resection of pubic ramus and medial compartment muscle excision along with bilateral orchidectomy. Defect was reconstructed with gracilis flap. Biopsy report showed moderately differentiated squamous cell carcinoma infiltrating into the pubic bone since then he was on regular follow up and doing well.

Discussion

Diagnosis of penile cancer is often made when a penile abnormality is noticed or after a chronic ulcer that was misdiagnosed as a sexually transmitted disease which didn't responded to therapy. Physical examination of the genitalia and inguinal nodes to determine the local extent of the disease and the existence of inguinal lymphadenopathy are the first steps in the workup for penile cancer. The most important indicator of survival is nodal status [3]. The majority of patients with palpable inguinal nodes have 50% chances of having metastatic disease rest is inflammatory. The chance of metastasis in the lymph node in nonpalpable inguinal lymphadenopathy is 20%. The lung, bone, and liver are the most often affected organs by distant metastases. Management of penile carcinoma depends on the local extent of the primary cancer and the regional lymph node status [4]. Erythroplasia of Queyrat, or penile SCC *in situ*, is a red, velvety,

well-marginated lesion that affects uncircumcised men's prepuce or glans penis. A conservative strategy that spares penile structure and function is desirable after confirmation biopsy. Circumcision is an effective treatment for patients with preputial lesions. For glandular and meatal lesions, topical 5-FU cream and imiquimod have been used with great cosmetic success [5]. A total penectomy combined with a perineal urethrostomy is necessary for large proximal shaft tumours. Complete emasculation (total penectomy, scrotoectomy, and orchiectomy) is advised for severe proximal cancers that have invaded nearby structures [6]. Although a hemipelvectomy or even a hemicorporectomy has been documented in exceptional circumstances, contemporary treatment recommendations advise combined chemotherapy and radiation therapy for unresectable disease. While staging Inguinal Lymph Node Dissection (ILND) is advised for clinically negative inguinal region in individuals with high-risk disease without delay, biopsy of suspicious nodes is preferred for patients with low-risk main tumours. Inguinal dissection should be performed when there is suspicion of metastases in cN1 disease and neoadjuvant chemotherapy is recommended when cN2 or cN3 disease is confirmed after biopsy as per consensus guidelines [7].

American Joint Committee on Cancer Tumor-Node-Metastasis 2018 Penile Cancer [8]

Primary tumor (T)

- Tx Primary tumor cannot be assessed
- T0 No evidence of primary tumor
- Tis Carcinoma in situ (penile intraepithelial neoplasia [PeIN])
- Ta Noninvasive localized squamous cell carcinoma

T1 Glans: Tumor invades lamina propria Foreskin: Tumor invades dermis, lamina propria, or dartos fascia.

Shaft: Tumor invades connective tissue between epidermis and corpora regardless of location. All sites with or without lymphovascular invasion or perineural invasion and tumor is or is not high grade.

T1a Tumor is without lymphovascular invasion or perineural invasion and is not high grade (i.e., grade 3 or sarcomatoid).

T1b Tumor exhibits lymphovascular invasion and/or perineural invasion or is high grade (i.e., grade 3 or sarcomatoid).

T2 Tumor invades into corpus spongiosum (either glans or ventral shaft) with or without urethral invasion.

T3 Tumor invades into corpora cavernosum (including tunica albuginea) with or without urethral invasion.

T4 Tumor invades into adjacent structures (i.e., scrotum, prostate, pubic bone).

Clinical lymph node (cN)

- cNx Regional lymph nodes cannot be assessed
- cN0 No palpable or visibly enlarged inguinal lymph nodes
- cN1 Palpable mobile unilateral inguinal lymph node
- cN2 Palpable mobile ≥ 2 unilateral inguinal nodes or bilateral

Inguinal lymph nodes

- cN3 Palpable fixed inguinal nodal mass or pelvic lymphadenopathy unilateral or bilateral

Pathological lymph node (pN)

- pNx Lymph node metastasis cannot be established
- pN0 No lymph node metastasis
- pN1 ≤ 2 unilateral inguinal metastases, no Extranodal Extensión (ENE)
- pN2 ≥ 3 unilateral inguinal metastasis or bilateral metastases
- pN3 ENE of lymph node metastases or pelvic lymph node metastases

Distant metastasis (M)

- M0 No distant metastasis
- M1 Distant metastasis

Conclusion

Advanced cancer penis with the involvement of other adjacent structures after recommended protocols can be safely dealt surgically with good acceptable surgical margins and needs proper reconstruction to cover the defect, surgical modality of management definitely improves the quality of life.

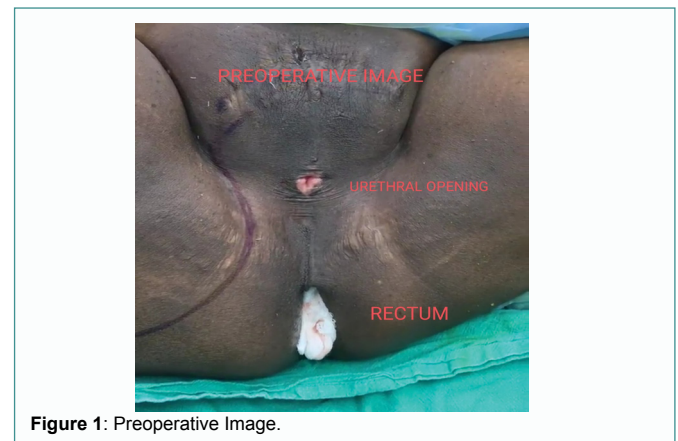


Figure 1: Preoperative Image.



Figure 2: Intraoperative Picture.

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