



CASE REPORT

Penile Cancer: Case Report

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Keywords

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Introduction

Penile cancer is the most rarely observed cancer among male urogenital system tumors and is observed at an annual rate of 1/100000 [1]. Penile cancer risk increases significantly with increasing age, poor hygiene, and the presence of a foreskin. The most frequently observed type is the squamous cell carcinoma (SCC). Clinical examination of the inguinal lymph nodes is critical, as nodal involvement is a poor prognostic feature. Patients with T2 or higher-grade tumors and lymphovascular invasion are at high risk of nodal involvement and probably should have a lymph node dissection. Penile lesions are often infected and cause significant surrounding inflammation. Despite this, 50% of palpable nodes will be malignant. Complications are relatively common after an inguinal lymph node dissection (ILD) and proper meticulous surgical technique is important to decrease postoperative morbidity [2]. Penile SCC most commonly presents between the ages of 50 and 70 years. The majority of lesions are found on the glans (48%), followed by the prepuce (21%), both glans and prepuce (15%), coronal sulcus (6%), and shaft (< 2%). Clinical presentation is variable. It may present as a small area of induration and erythema or a large ulcerating and infiltrative lesion. As the disease progresses, there may be associated itching, bleeding, discharge, foul odor, and pain. Presentation may be delayed secondary to psychological factors, with an estimated 15

Table 1: Histopathological grading of penile SCC.

Pathological Grading (G)
GX Grade cannot be assessed
G1 Well differentiated
G2 Moderately differentiated
G3 Poorly differentiated
G4 Undifferentiated

to 60% of patients postponing presentation for at least one year. Despite this, most men (66%) initially present with localized disease. Assessment of lymphatic spread with palpation of inguinal lymph nodes is an essential component of the initial physical exam. Lymphatic spread usually occurs in a predictable course, first to the superficial and deep inguinal nodes, followed by the pelvic, and then periaortic nodes. Distant metastases are generally uncommon (1-10%) and occur late in the disease [3].

Penile SCC can be divided into several subtypes. The most common subtypes include usual SCC (48-65%), basaloid carcinoma (4-10%), warty carcinoma (7-10%), verrucous carcinoma (3-8%), papillary carcinoma (5-15%), and mixed carcinomas (9-10%). Each subtype has distinct histologic features. Histopathologic analysis is used to grade the tumor, which is then assigned on a spectrum based on cellular differentiation (Table 1) [3,4]. Staging is performed using the TNM penile cancer system developed by the American Joint Committee on Cancer (Table 2) [5]. Staging is based on depth of tumor invasion, nodal involvement, and distant metastases (Table 3) [3,5].

Table 2: American joint committee on cancer TMN classification for penile cancer.

Primary Tumor (T)	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma <i>in situ</i>
Ta	Noninvasive verrucous carcinoma*
T1a	Tumor invades subepithelial connective tissue without lymph vascular invasion and is not poorly differentiated (i.e., grade 3-4)
T1b	Tumor invades subepithelial connective tissue with lymph vascular invasion and is poorly differentiated
T2	Tumor invades corpus spongiosum or cavernosum
T3	Tumor invades urethra
T4	Tumor invades other adjacent structures
*Note: Broad pushing penetration (invasion) is permitted; destructive invasion is against this diagnosis.	
Regional Lymph Nodes (N)	
Clinical Stage Definition*	
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 multiple or bilateral inguinal lymph nodes
cN3	Palpable fixed inguinal lymph nodal mass or pelvic lymphadenopathy unilateral or bilateral
*Note: Clinical stage definition based on palpation, imaging.	
Pathologic Stage Definition*	
pNX	Regional lymph nodes cannot be assessed
pN0	No regional lymph node metastasis
pN1	Metastasis in a single inguinal lymph node
pN2	Metastasis in multiple or bilateral inguinal lymph nodes
pN3	Extranodal extension of lymph node metastasis or pelvic lymph node(s) unilateral or bilateral
*Note: Pathologic stage definition based on biopsy or surgical excision	
Distant Metastasis (M)	
M0	No distant metastasis
M1	Distant metastasis*
*Note: Lymph node metastasis outside of the true pelvis in addition to visceral or bone sites.	

Table 3: American joint committee on cancer penile cancer staging.

Anatomic Stage/Prognostic Groups	
Stage 0	Tis N0 M0
	Ta N0 M0
Stage I	T1a N0 M0
Stage II	T1b N0 M0
	T2 N0 M0
	T3 N0 M0
Stage IIIa	T1-3 N1 M0
Stage IIIb	T1-3 N2 M0
Stage IV	T4 Any N M0
	Any T N3 M0
	Any T Any N M1

**Figure 1:** Appearance of penile cancer (invasion of urethral meatus).

Case Report

Our case is a 59-year old male, he's been smoking for

20 years, no multiple sexual partners and no viral infection (such as HPV, HIV). Patient was circumcised. Patient and his complaints started 3 months ago. First a bulging



Figure 2: Appearance of penile cancer (invasion of glans penis).

lesion occurred on the surface of penile glans. However, the lesion grew further. The patient did not apply to an advanced center as he has low socio-cultural level. He applied to our clinic when the lesion grew further, and he started having difficulty in micturition. The penile glans was fully covered, and invasion was detected in the urethral meatus (Figure 1 and Figure 2). Biopsy was taken from the patient and the urethral meatus was opened. The biopsy result was SCC. Clinical stage was T3cN1M0. CT scan and PET (Positron emission tomography) was performed on the patient for staging. Spread was detected on the inguinal lymph nodes (Figure 3). Radical surgery (total penectomy, bilateral pelvic lymph node dissection) was recommended to the patient. However, the patient

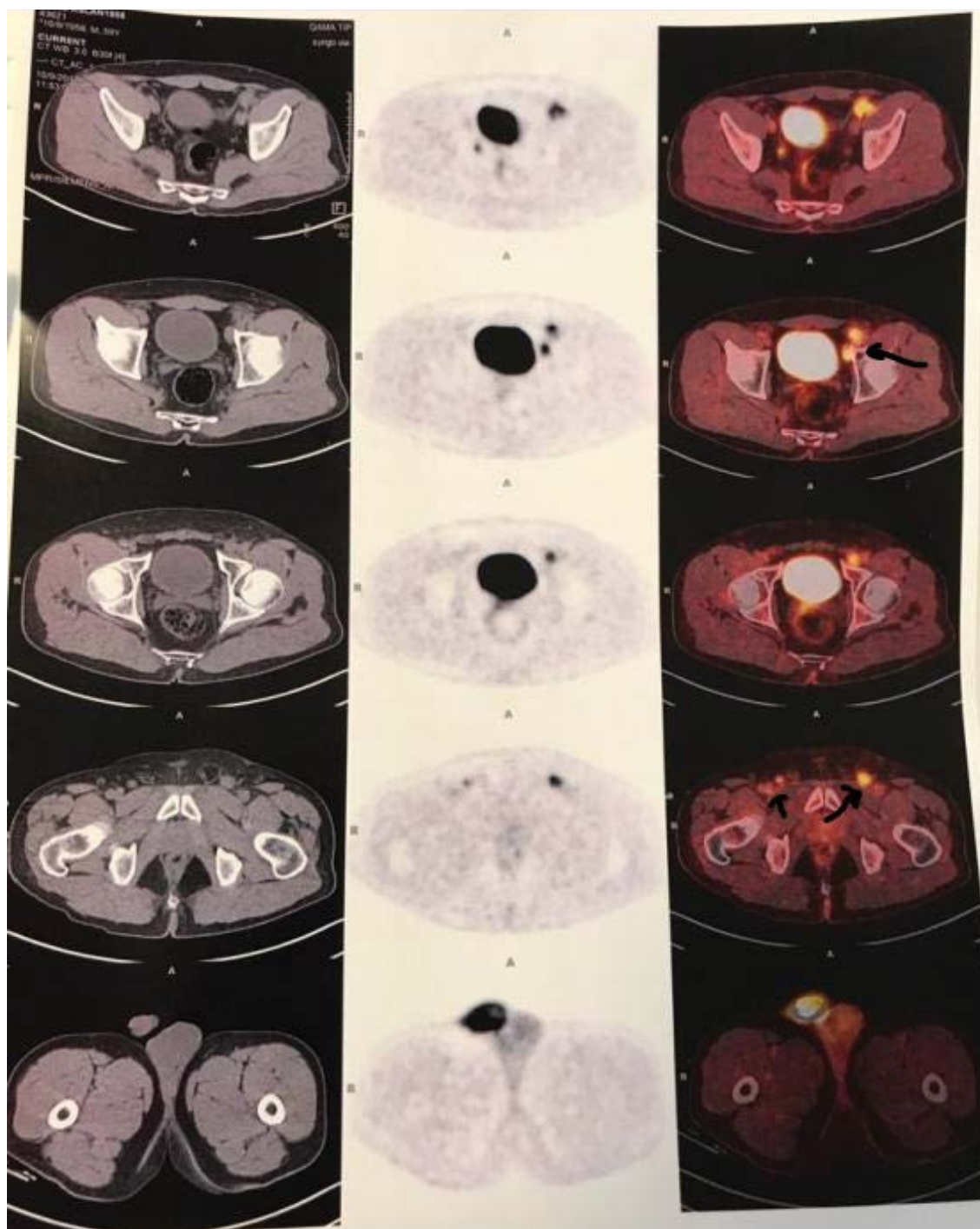


Figure 3: PET/CT scan (positive inguinal lymph nodes).

did not accept. Since the tumor was deep localized to the skin, topical treatment was not recommended. Despite successful topical treatments in the literature, we have not recommended to the patient [6]. Chemotherapy was recommended, he accepted. Urethral meatus surgically opened, and he underwent palliative chemotherapy. Treatment of the patient continues.

Conclusion

A logical and effective therapeutic approach to PC is possible despite the lack of randomized trials. For localized disease, there are sophisticated approaches beyond mere amputation, such as glans-sparing partial penectomy, brachytherapy and reconstructive surgery. For metastatic disease in LNs, a curative neoadjuvant multidisciplinary paradigm is feasible instead of a palliative approach. Nevertheless, despite excellent outcomes in localized disease, locoregional and metastatic disease portend poor outcomes. Important research questions remain, such as the role of chemoradiation, and opportunities for targeted therapy. Unfortunately, in view of the rarity of the disease and little interest among pharmaceutical companies, few clinical trials have been conducted. Prevention and early detection appear critical. In particular, neonatal circumcision, smoking cessation and HPV vaccination may substantially reduce the incidence of PC. Indeed, HPV vaccination is already approved in the USA for males aged 9-26 years for preventing genital warts and anal cancer. Global collaboration is urgently necessary to make advances [7].

Declaration of Conflicting Interests

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Informed Consent

Informed consent for patient information and images to be published was provided.

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