

CASE REPORT

CASE REPORT ON TRANSITIONAL CELL CARCINOMA OF MALE URETHRA

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Introduction

Carcinoma of the male urethra is rare and usually presents in the fifth decade of life. More than half of patients have a history of urethral stricture disease, almost one fourth have a history of sexually transmitted disease, and 96% are symptomatic at presentation¹. The most common presenting symptoms are urethral bleeding, a palpable urethral mass, and obstructive voiding symptoms. Tumors of the male urethra are categorized according to location and histologic features of the cells lining the urethra². Penile urethra is involved in 30%; carcinomas of the penile urethra are of squamous cell origin in 90% and of transitional cell origin in 10%; Male urethral carcinoma can spread by direct extension to adjacent structures, usually involving the vascular spaces of the corpus spongiosum and the periurethral tissues, or it can metastasize through lymphatic embolization to regional lymph nodes. The lymphatics from the anterior urethra drain into the superficial and deep inguinal lymph nodes. Hematogenous dissemination is uncommon except in advanced disease. As in penile carcinoma, the primary form of treatment for men with urethral carcinoma is surgical excision. In general, anterior urethral carcinoma is more amenable to surgical control, and the prognosis is better than that

of posterior urethral carcinoma. A large series reported overall survival rates of 83% for low-stage tumors, 36% for high-stage tumors, 69% for anterior tumors, and 26% for those in the posterior urethra. As opposed to penile carcinoma, benefit from prophylactic inguinal lymph node dissection has not been demonstrated in urethral cancer¹.

Case Report

A 45 year old gentleman coming from Munshigonj presented with obstructive voiding symptoms for 3 months and burning urethral syndrome. Suddenly he developed acute retention of urine and attend emergency dept of Mitford Hospital where per urethral catheter was tried and failed to negotiate but retention was relieved by supra pubic cystostomy. Then he was admitted in urology dept of SSMC & MH where urethrocystoscopy was tried and failed to pass beyond proximal urethra but took a biopsy from the urethra which revealed transitional cell carcinoma. Subsequently, patient developed urethro cutaneous fistula. Then this patient was referred to urooncology unit of BSMMU. On examination there is a fungating growth in the root of the penis which invades the surrounding scrotal wall (fig a). Urine was coming from the fistula,

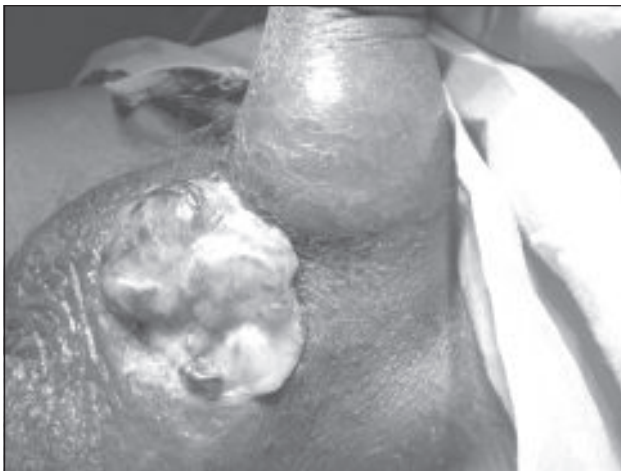


Figure: (a) *Fungating growth at the root of the penis with urethrocutaneous fistula.* (b) *Left testis being repositioned after excision of mass.*

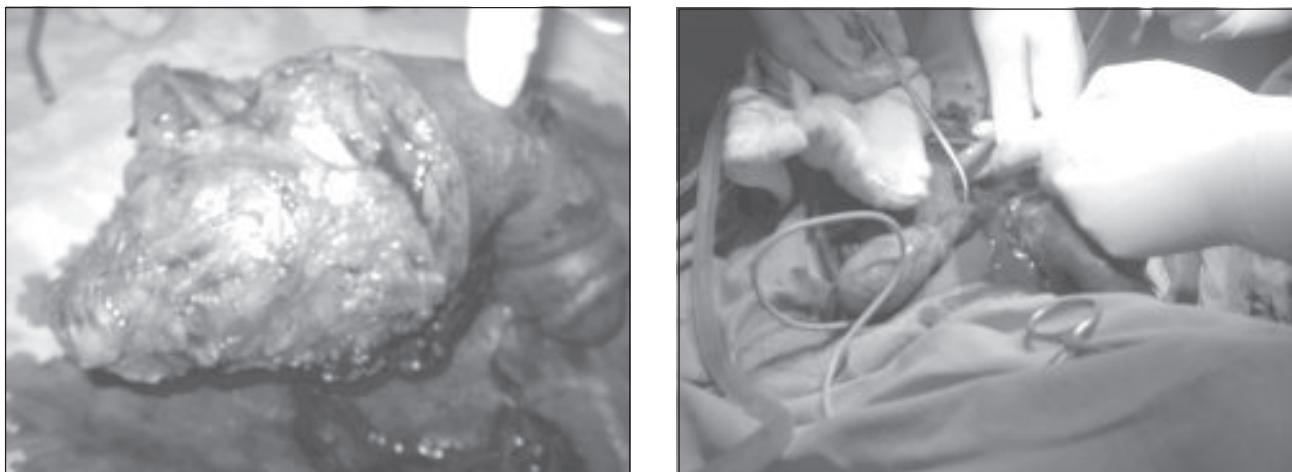


Fig.-1: (c) Reseted specimen. (d) Perineal urethrostomy and wound before closure.

Inguinal lymph node were not palpable. Digital rectal examination revealed normal prostate and rectal mucosa was normal. Incision biopsy was taken revealed transitional cell carcinoma. CT scan showed growth involving the proximal urethra with crus but no bony involvement. Kidneys and ureters and urinary bladder were found normal. Patient was prepared for operation. Total amputation of penis with total scrotoectomy was done along with right total orchodectomy (fig b,c,d). Left testis was repositioned in the upper thigh. Post operative period was uneventful. Patient was discharged on 12th post operative day and referred to oncologist for radio and chemotherapy.

Discussion

Carcinoma of the male urethra is rare and usually presents in the fifth decade of life¹. Etiologic factors include chronic inflammation due to a history of frequent sexually transmitted diseases, urethritis, and urethral stricture, and there is likely to be a causal role for human papillomavirus 16 in squamous cell carcinoma of the urethra². The onset of malignant change in a patient with chronic urethral stricture disease may be insidious, and a high index of clinical suspicion is required to diagnose these tumors expediently. More than half of patients have a history of urethral stricture disease, almost one fourth have a history of sexually transmitted disease, and 96% are symptomatic at presentation. The most common presenting symptoms are urethral bleeding, a palpable urethral mass, and obstructive voiding symptoms¹.

Pathology

Tumors of the male urethra are categorized according to location and histologic features of the cells lining the urethra³. The bulbomembranous urethra is involved most frequently, accounting for 60% of tumors, followed by the penile urethra (30%) and the prostatic urethra (10%). Overall, 80% of male urethral cancers are squamous cell carcinoma; 15% are transitional cell carcinoma; and 5% are adenocarcinoma, melanoma, lymphoma, paraganglioma, sarcoma, or undifferentiated tumor. The histologic subtype of urethral cancer also varies by anatomic location. Carcinomas of the prostatic urethra are of transitional cell origin in 90% and of squamous cell origin in 10%; carcinomas of the penile urethra are of squamous cell origin in 90% and of transitional cell origin in 10%; and carcinomas of the bulbomembranous urethra are of squamous cell origin in 80%, of transitional cell origin in 10%, and adenocarcinoma or undifferentiated in 10%⁴.

Male urethral carcinoma can spread by direct extension to adjacent structures, usually involving the vascular spaces of the corpus spongiosum and the periurethral tissues, or it can metastasize through lymphatic embolization to regional lymph nodes. The lymphatics from the anterior urethra drain into the superficial and deep inguinal lymph nodes and occasionally into the external iliac lymph nodes. Tumors of the posterior urethra most commonly spread to the pelvic lymph nodes. Palpable inguinal lymph nodes occur in about 20% of cases and almost always represent metastatic disease, in contrast to penile cancer, in which a large percentage of palpable nodes may be inflammatory. Hematogenous dissemination is uncommon except in advanced disease.

Evaluation and Staging

The tumor, nodes, metastasis (TNM) staging classification is based on depth of invasion of the primary tumor and presence or absence of regional lymph node involvement and distant metastasis. Examination under anesthesia consisting of cystoscopy and bimanual palpation of the external genitalia, urethra, rectum, and perineum aids in evaluating the extent of local involvement by tumor. Transurethral or needle biopsy of the lesion is also performed⁵. If rectal involvement is suspected on bimanual examination or by the patient's symptoms, an evaluation of the lower colon by barium enema study and flexible sigmoidoscopy is recommended to assist with surgical planning. Local soft tissue involvement, lymph node involvement, and bone extension are best evaluated by a computed tomographic scan of the abdomen and pelvis or by magnetic resonance imaging. Magnetic resonance imaging may be helpful for detecting invasion of the corpora cavernosa and is a useful staging modality⁶.

Treatment

As in penile carcinoma, the primary form of treatment for men with urethral carcinoma is surgical excision. In general, anterior urethral carcinoma is more amenable to surgical control, and the prognosis is better than that of posterior urethral carcinoma, which is often associated with extensive local invasion and distant metastasis. A large series reported overall survival rates of 83% for low-stage tumors, 36% for high-stage tumors, 69% for anterior tumors, and 26% for those in the posterior urethra⁷.

Carcinoma of the Penile Urethra

Transurethral resection, local excision, or distal urethrectomy and perineal urethrostomy may be acceptable treatment in selected patients with superficial, papillary, or low-grade tumors. Long-term disease-free survival has been reported in this setting⁷⁻¹¹. Partial penectomy with a 2-cm negative margin is the treatment of choice for tumors infiltrating the corpus spongiosum and localized to the distal half of the penis. Excellent local control after this procedure has been documented¹²⁻¹⁷. If invasive disease extends to or involves the proximal penile urethra, total penectomy is required to obtain an adequate margin of excision. In the largest series to date, a local recurrence rate of 13% was reported after this procedure¹².

Accurate staging is important to avoid underestimation of the proximal extent of the tumor. Review of previous data would suggest that radical penectomy is an

insufficient operation for bulbous urethral tumors. There have been limited reports of urethrectomy alone with perineal urethrostomy for infiltrating tumors confined to the corpus spongiosum. The benefits of this more conservative approach need to be weighed against the probability of local relapse or dissemination of disease. Ilioinguinal lymphadenectomy is indicated in the presence of palpable inguinal lymph nodes without evidence of metastatic disease. Benefit from prophylactic inguinal lymph node dissection has not been demonstrated in urethral cancer¹⁷.

Radiation Therapy and Chemotherapy

Although some instances of tumor control by irradiation have been reported. Radiation therapy has the advantage of preserving the penis, but it may result in skin ulceration or necrosis, urethral stricture, or chronic edema, and it does not prevent new tumor occurrence. The long-term results of radiotherapy are difficult to evaluate because few reports are available of patients treated with this modality^{18,19}.

A small number of studies have reported the results of neoadjuvant and adjuvant combination chemotherapy in patients with advanced stage or metastatic disease. A regimen including methotrexate, vinblastine, doxorubicin, and cisplatin (M-VAC) has been noted to have activity against transitional cell carcinoma but was ineffective against other tumor histologic types. Dinney and colleagues reported long-term survival in four of eight patients who presented with metastatic urethral carcinoma and were treated with cisplatin-based chemotherapy and surgical excision. On the basis of this experience, their favored regimen was noted to consist of cisplatin, bleomycin, and methotrexate for squamous cell carcinoma and M-VAC for transitional cell carcinoma¹⁵.

The combination of chemotherapy and radiation therapy has shown some success in a small number of patients with localized and metastatic urethral cancer. More commonly, these forms of treatment are combined with surgery in a multimodal approach in patients with advanced stage or metastatic disease²⁰.

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