Case Report

Squamous cell carcinoma of suprapubic cystostomy tract in a male with locally advanced primary urethral malignancy

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ABSTRACT

A 65-year-old man with stricture urethra underwent drainage of periurethral abscess and suprapubic cystostomy (SPC) placement. He presented to us 3 months later with a fungating ulcer at the site of perineal incision, the biopsy of which revealed squamous cell carcinoma (SCC). He underwent a total penile amputation, wide local excision scrotum, radical urethrocystoprostatectomy, ileal conduit with the en-bloc excision of the SPC tract. Histopathological examination of the suprapubic tract also revealed SCC. This is the first documented case of SCC of a suprapubic tract in the presence of primary urethral SCC.

Key words: Squamous cell carcinoma, suprapubic cystostomy, urethral carcinoma

INTRODUCTION

Primary male urethral carcinoma accounts for <1% of all male urological malignancies. It occurs most often in the fifth decade of life. About 96% are symptomatic at presentation with a history of stricture disease in more than half and sexually transmitted disease in one fourth of all patients.[1] The most common presentation is obstructive symptoms with palpable urethral mass. Rarely, it can manifest as a periurethral abscess, fistula, or fungating perineal tumor. While urethral carcinoma is known to aggressively infiltrate periurethral tissue; concomitant involvement of suprapubic catheter tract has not been reported in the literature. In this paper, we reiterate the importance of high clinical suspicion in making this rare diagnosis, the consequences of delayed diagnosis and the role of biopsy of a suprapubic tract with clinical features of malignancy.

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CASE REPORT

A 65-year-old diabetic male with a long history of urethral stricture developed rapid worsening of his lower urinary tract symptoms and noticed a painful swelling in his upper scrotum for 2 weeks. He was diagnosed with a periurethral abscess and underwent incision and drainage at another center. A suprapubic catheter was placed for urinary diversion. His perineal wound did not heal and over the next 3 months it developed into a fungating ulcer. He consulted his surgeon, who performed a biopsy revealing squamous cell carcinoma (SCC). At presentation to us, he had a 10 × 6 cm, fungating, malodourous, ulceroproliferative scrotal growth fixed to the region of the bulbar urethra. The growth extended anteriorly to the penoscrotal junction [Figure 1a]. There was no palpable inguinal lymphadenopathy. The abdominal entry site of the suprapubic catheter was ulcerated with rolled out edges and induration [Figure 1a]. CT scan showed an enhancing ill-defined soft tissue density in the region of bulbar urethra infiltrating corpora cavernosa, adjacent skin and subcutaneous tissue [Figure 1b]. Transverse section [Figure 1c] at the level of bladder and suprapubic cystostomy (SPC) tract showed induration surrounding the tract. He underwent a total penile amputation, wide local excision scrotum, radical urethrocystoprostatectomy, ileal conduit diversion, and pelvic lymphadenectomy [Figure 2a]. We included wide local excision of the SPC site, en bloc

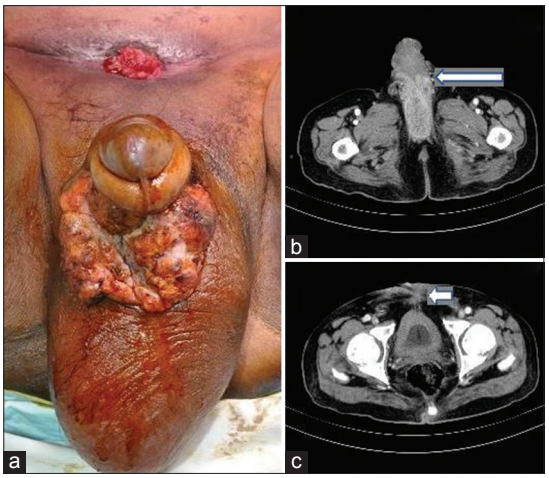

Figure 1: (a) Ulceroproliferative growth at the penoscrotal junction and, suprapubic cystostomy (SPC) site with ulcerated, everted mucosal edges; (b) computed tomography scan showing an ill-defined, enhancing mass in the region of posterior urethra infiltrating cavernosae (arrow); (c) Transverse section showing bladder and SPC tract (arrow head)

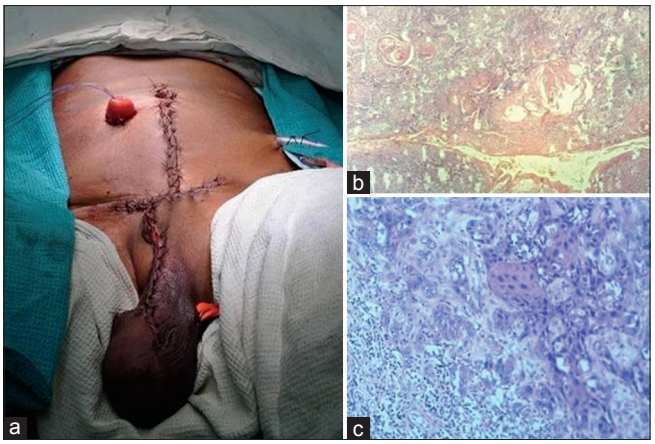

Figure 2: (a) Postoperative picture following radical urethrocystoprostatectomy with en-bloc excision of suprapubic cystostomy (SPC) tract and wide local excision of scrotum; (b) H and E, ×10 showing primary squamous cell carcinoma (SCC) of urethra with keratin pearls; (c) H and E, ×20 showing foci of SCC in the SPC tract

with the cystoprostatectomy specimen. Histopathological examination showed moderately differentiated SCC of the bulbar urethra [Figure 2b] with 2 right external iliac lymph nodes positive for metastasis. The SPC site was also reported to harbor SCC [Figure 2c]. Postoperative staging was T3N1; he was given a course of adjuvant chemotherapy (cisplatin and gemcitabine) and has completed follow-up of 6 months.

DISCUSSION

Our patient had a history of long-standing urethral stricture complicated by a periurethral abscess. Urethral stricture has a known predisposing condition for urethral carcinoma. Others are chronic irritation after intermittent catheterization, following urethroplasty, external-beam radiation therapy, radioactive seed implantation, and chronic urethral inflammation or urethritis following sexually transmitted diseases.[2]

Male urethral carcinoma most commonly occurs at the bulbomembranous urethra (60%), while the penile and the prostatic urethra are afflicted in 30% and 10% of cases respectively.[3] Histologically, SCC accounts for 80% of urethral malignancy, 15% are transitional cell carcinoma and less than 5% are adenocarcinoma.[4]

Symptoms of this malignancy are neither pathognomonic nor diagnostic. The often insidious onset of the disease and non-diagnosis at initial presentation might result in substantial delay between first symptoms and treatment. Common presentations include bleeding per urethra, discharge, urinary obstruction, penile or perineal pain, hematospermia, and a palpable mass.

In rare cases such as this, a periurethral abscess or urethral fistula in the background of stricture disease may be the sequel of advanced infiltrative malignancy. The early obstructive symptoms can mimic stricture disease and indeed, progressively difficult dilatation of urethral stricture may presage the diagnosis in the presence of adequate clinical suspicion. Similarly, urethral bleeding in the absence of prior trauma or disease may reveal urethral malignancy on evaluation. Regional lymph nodes are to be examined carefully in all cases; palpable lymphadenopathy present in 20% of cases most often represents metastatic disease rather than inflammatory process as seen in penile cancer.[4]

Male urethral carcinoma may remain localised till advanced stages of the disease. Local spread occurs by direct infiltration of adjacent tissue through the spongiosum and periurethral tissue into the urogenital diaphragm, perineum and scrotal skin. Spread via lymphatic embolization into regional lymph node basins generally occurs late in the process. Lymphatics from the anterior urethra generally drain into the superficial and deep inguinal nodes and less often directly into the external iliac group. The posterior urethra drains into the pelvic lymph nodes.

Faced with advanced clinical stage of disease, we undertook radical resection of the lower urinary tract with urinary diversion. In this case, external iliac nodes were positive for malignancy.

Malignancy at the suprapubic site was unlikely to have been caused by chronic irritation from the catheter given the relatively short duration of the diversion. Previous reports of SCC at the suprapubic tract involved period of catheterization from 5 to 35 years.[5] This is the first report of suprapubic tract SCC in the presence of primary urinary tract malignancy.

We presume that the seeding of the tract occurred either from extension of tumor via transdermal lymphatic spread or exposure to malignant cells in urine. Urine cytology in this case was however negative and the bladder was also free of tumor. Urethral tumor led to periurethral abscess from urinary obstruction and extravasation into periurethral glands. Perhaps the distal obstruction in combination with the breach of tissue planes by both tumor and intervention allowed viable malignant cells in urine access to the suprapubic site around the time of its creation.

Our anecdotal experience leads us to recommend biopsy of the suprapubic tract whenever examination arouses suspicion, especially when urinary tract malignancy is present. Locally advanced urethral SCC must be excised with a wide margin along with flap reconstruction of the defect when indicated, to allow optimal local oncologic clearance.

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