



Managing squamous cell carcinoma of the bulbomembranous male urethra with genital-preserving surgery and chemoradiotherapy

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Invasive squamous cell carcinoma (SCC) of the bulbomembranous urethra is rare. Radical disfiguring surgery is often recommended to control this aggressive disease, with subsequent 5-year survival rates of 5–15%.¹

Evidence regarding treatment using genital preserving surgery and coordinated chemoradiotherapy is scarce. We report a case of SCC of the bulbomembranous urethra managed using this less mutilating method; results were encouraging.

Case report

A 62-year-old sexually active man presented in December 2004 with a recurrent episode of obstructive urinary symptoms secondary to a benign stricture of the bulbomembranous urethra. The stricture was related to traumatic postoperative urinary catheter insertion in July 2000 and was initially diagnosed by rigid cystoscopy.

Eight subsequent dilatations were required over the next 4 years, each time with a benign cystoscopic examination. Abdominal, perineal, and per rectal (PR) examination were normal. A buccal patch urethroplasty was planned as definitive treatment for February 2005.

Figure 1. Descending urethrogram of patient showing stricturing of the bulbomembraneous urethra



During surgery, examination of the stricture had become abnormally hard in texture. Frozen section suggested transitional cell carcinoma with extension into periurethral tissues. Consequently, the urethra was excised from the base of the prostate to meatus with adjacent periurethral tissue. A postoperative staging CT scan of the chest, abdomen, and pelvis showed no evidence of lymph node or distant metastases.

A definitive diagnosis of poorly differentiated squamous cell carcinoma was made on haematoxylin and eosin (H&E) histological section. There was microscopic involvement of the proximal resection margin, in addition to perineural and lymphovascular invasion. He had significant risk of occult metastases to pelvic and inguinal lymph nodes and was staged as having T4 N0 M0 disease (Stage C, Ray's classification).¹

The patient subsequently received 40 Gy / 20 fractions to the lower pelvis and urethra, plus a 10 / 5 boost to the perineum, and 2 cycles of mitomycin C (10 mg/m² stat day 1) and 5 fluorouracil (5FU) (1000 mg/m² daily x 4 days, days 1–4), 4 weeks apart. He had no evidence of recurrence 13 months from diagnosis.

Discussion

The aetiology of SCC of the male urethra appears to have an association with the presence of HPV 16.² Other chronic inflammatory conditions, such as urethral condylomas and urethral stricture disease, as in this case, also have an association.³ Definitive diagnosis is made by biopsy. Voided urine cytology is not a useful diagnostic tool.⁴

Patients with locally advanced squamous cell carcinoma of the bulbomembranous urethra fare poorly with radical surgery or primary radiotherapy.¹

The use of chemoradiotherapy in the treatment of SCC of the anus, penis, and oesophagus has a well-established base in evidence.³ There is a small amount of evidence regarding a variety of chemoradiotherapy regimes in the treatment of urethral SCC.^{5–7} For comparison, we describe two using mitomycin-C and fluorouracil specifically.

Lutz and Huang (1995) treated a 47-year-old man with gonococcal urethritis and a poorly differentiated SCC (Stage 4, T4N2M0).⁸ Mitomycin C, 5-fluorouracil, and radiotherapy caused marked regression of the tumour. He had no clinical evidence of disease 16 months after diagnosis.

The second publication by Oberfield et al (1996) describes two similar cases.³ A 42-year-old man with moderately differentiated stage C disease (T4N0M0) was given 5FU, mitomycin C and radiation of 45Gy to the primary site and groin regions. The patient went into full remission for 18 months. The second patient, a 49-year-old man diagnosed with a 6 x 4 cm proximal bulbous urethral SCC (Stage C, T4N0M0) was treated similarly. This man survived disease-free for 4 years.

Our findings add to the evidence in favour of using chemoradiotherapy in conjunction with genital-preserving surgery for the treatment of this unusual malignancy.

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