Primary transitional cell carcinoma of the anterior urethra: a rare presentation

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Abstract
A 72 year old Caucasian male presented with symptoms and signs of littritis. There was no response to a two week course of doxycycline. Cysto-urethroscopy revealed a transitional cell carcinoma of the anterior urethra. As there was no response to deep x-ray therapy, radical amputation of the penis was carried out. The literature pertaining to this rare entity is reviewed.

Introduction
Transitional cell carcinoma of the anterior urethra is extremely rare. Only five cases have been reported in the literature up to the end of December 1988. Urothelial metaplasia or ectopic urothelium may explain the occurrence of transitional cell carcinoma in an area normally lined by squamous epithelium. However, the isolation of human papilloma virus type 6 RNA in three cases of Grade I papillary transitional cell carcinoma of the anterior urethra in association with condyloma acuminata raises the possibility of an active role for the virus in the pathogenesis of the lesion. Here we report a case of transitional cell carcinoma of the anterior urethra presenting with features consistent with periurethral inflammation and review the related literature.

Case report
A 72 year old Caucasian male was seen at the genitourinary clinic with a six months history of swelling and pain in the shaft of the penis and slight bleeding at the start of micturition, associated with pus and debris in urine. Two years previously, he had had similar symptoms which settled with antibiotics, following a negative cystoscopy. Examination revealed a tender fusiform swelling of the distal third of the penis associated with a purulent urethral discharge. There were no other abnormalities and in particular there was no evidence of inguinal lymphadenopathy. All screening tests were negative. A provisional diagnosis of littritis was made and he was commenced on a two week course of doxycycline 200 mg stat dose and 100 mg bd.

Figure 1 Fusiform swelling of the distal third of the shaft of the penis.

When he was reviewed two weeks later, as there was no change in signs or symptoms, a cystourethroscopy was performed. This revealed a solid tumour in the distal urethra. Biopsy confirmed a transitional cell carcinoma. An intravenous urogram and a repeat cystoscopy and a biopsy of a suspected bladder lesion showed no evidence of skip lesions. A chest radiograph was normal.

He was treated with deep x-ray therapy (5200 rads) given in 20 fractions over a 36 day period. However, as there was no response a radical amputation of the penis was carried out. Check cystoscopy carried out six months and seventeen months after surgery, showed no evidence of recurrence. However, he had multiple admissions to hospital in the ensuing two years for problems associated with an adeno-
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malignancies in males, the incidence of carcinoma of
the urethra is much lower than in the short female
urethra.\textsuperscript{5,6} The commonest histological type is
squamous cell carcinoma (78%) occurring in the
anterior urethra which is lined by pseudostratified
and stratified columnar epithelium and most distally
in the meatus by stratified squamous epithelium. One
in five of anterior urethral carcinomas occur in the
fossa navicularis.\textsuperscript{2}

Transitional cell carcinoma usually presents in the
posterior urethra, mainly in the prostatic portion
where the epithelium is transitional and in continuity
with the bladder epithelium. Transitional cell carci-
noma in the anterior urethra is extremely rare. Only
five cases have been reported in the literature up to
December 1988.\textsuperscript{1} The occurrence of transitional cell
carcinoma in an area normally lined by squamous
epithelium could be explained by either urothelial
metaplasia or the presence of ectopic urothelium.\textsuperscript{2,3}
Recent studies have shown the presence of human
papilloma virus type 6 RNA in some specimens of
Grade I papillary transitional cell carcinoma of
the anterior urethra associated with condyloma
acuminata. This raises the possibility of an active role
for the virus in the pathogenesis of the lesion.\textsuperscript{4}

Clinical presentation of carcinoma of the anterior
urethra is usually that of a urethral stricture. Follow-
ing ulceration of the growth, a sero-sanguinous
urethral discharge may develop. Occasionally, the
patient may present with a periurethral inflammation
or induration as in this case. This form of presenta-
tion was common in earlier years and was usually
associated with a urethral stricture and instrumentation.
In the presence of periurethral induration or
inflammation, it is important to investigate the patient
endoscopically to avoid problems associated with a
fungating tumour.\textsuperscript{5}

Careful palpation of the inguinal region is impor-
tant to identify regional lymphadenopathy. Clin-
ically enlarged lymph nodes have been reported in
50% of patients with carcinoma of the anterior
urethra.\textsuperscript{6} In two recent case reports of transitional
cell carcinoma metastases were seen both in the
inguinal and pelvic nodes. This required extensive
surgery followed by radiotherapy in one\textsuperscript{2} and
radiotherapy alone in the other.\textsuperscript{3} An urethrogram,
intravenous urogram and cysto-urethroscopy to
exclude skip lesions are all important investigations
in the work up of the patient. Transurethral biopsy is
the usual method of confirming the diagnosis. In the
absence of clinically detectable lymph nodes,
lymphangiography or computed tomography may
have a potential value in detecting pelvic lymph node
metastasis.\textsuperscript{8} A chest radiograph and an isotope scan
are usually negative as distant metastasis occurs only
in 10% of patients.\textsuperscript{8} Full haematological screening to
exclude anaemia, hypoalbuminaemia, uraemia, elec-
trolyte imbalance and hypercalcaemia completes the
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full assessment of the patient.

Tumours of the anterior urethra distal to the bulb are best managed by partial or total penectomy with perineal urethroscopy. Local recurrences are rare after treatment. Failure of treatment is a result of an unsuspected inadequate surgical margin or undetected regional lymph node involvement at the time of primary surgery. The reported five year survival rate is between 50%–66%. Recurrences after other modes of therapy are common.

It is important to be aware that symptoms of some benign diseases such as urethral stricture, urethritis, prostatitis and prostatic enlargement are also those of urethral malignancy. The development of a "stricture" in a middle aged or elderly man with no previous history of urethral disease and especially obstruction which bleeds easily should arouse the suspicion of urethral malignancy.

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