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Urethral Carcinoma

1. GROSS DESCRIPTION

Specimen

— biopsy/urethrectomy or as part of cysto(prostato)urethrectomy.
— weight (g) and size/length (cm), number of fragments.
— urethral cancers can present with haematuria, urinary hesitancy or retention. Proximal lesions present at a late stage. Investigation is by urethroscopy and biopsy, often combined with cytoscopy, and CT/MRI scan to determine tumour stage. Treatment is by surgical excision, the extent of which depends on the location and stage of disease, e.g. local excision for cancer of the distal or meatal urethra. Radiotherapy can preserve the penis but results in troublesome stricturing. Advanced proximal tumours may require a combination of radical surgery and radiotherapy for palliative control. Brachytherapy and radiosensitizing chemotherapy are other options. Secondary urethral cancers from the penis or bladder are excised as part of a penectomy (see Chapter 34) or cysto(prostato)urethrectomy, respectively. In women, urethrectomy is usually in continuity as part of a radical cystectomy. In men, preoperative biopsies are carried out to determine the presence of urethral disease (either in-situ or invasive) and the procedure carried out in two stages, viz cystoprostatectomy down to the level of the urogenital diaphragm and then a perineal urethrectomy for the residual urethra.

Tumour

Site

— prostatic/bulbomembranous/pendulous urethras/meatus.

Size

— length × width × depth (cm) or maximum dimension (cm).

Appearance

— polypoid/verrucous/papillary/sessile/ulcerated/ pigmented.

Edge

— circumscribed/irregular.

2. HISTOLOGICAL TYPE

Primary urethral carcinoma is rare and a urethral cancer is much more likely to represent secondary involvement from adjacent structures, e.g. penis or urinary bladder.

Squamous cell carcinoma

— 60–70% of cases.
— distal.
— keratinizing/non-keratinizing.
— large cell/small cell.
— verrucous: exophytic, pushing deep margin of cytologically bland bulbous processes. May coexist with usual squamous carcinoma.

Transitional cell carcinoma

— 20–30% of cases.
— proximal.

Adenocarcinoma

— 10% of cases.
— female > male; arising in strictures, diverticula or fistulae.
— glandular, enteric, mucinous, signet ring cell, papillary, hob-nail or clear cell patterns with or without urethritis cystica/glandularis.
— prostatic urethra: mesonephroid/endometrioid carcinoma (PSA positive), also known as carcinoma of the prostatic periurethral ducts. See Chapter 31.

Adenosquamous carcinoma

— rare.

Small cell carcinoma

— primary or secondary from lung.
— CAM5.2/synaptophysin/CD56 positive.

Malignant melanoma

— 4% of urethral malignancy.
— extensive radial growth is usual, leading to local recurrence. Spread is common to regional nodes, liver, lungs and brain. Prognosis, which is poor, relates to the tumour thickness. Mucosal junctional activity indicates a primary lesion.

Metastatic carcinoma

— multifocal/direct spread: urothelial cancer from bladder is commoner than a primary lesion. Other cancers that spread directly are penis, rectum, vagina, cervix and endometrium.
— distant spread: ovary, kidney (distinguish from primary clear cell carcinoma).

3. DIFFERENTIATION/GRADE

Well/moderate/poor/undifferentiated, or Grade 1/2/3/4.