

**I. GROSS DESCRIPTION****Specimen**

- wedge biopsy/penile-sparing resection/(glansectomy/partial penectomy)/total penile amputation/radical penectomy (including scrotum, testes, spermatic cords, groin lymph node dissection).
- size (cm) and weight (g).
- penile cancer can present as a warty/nodular lesion, plaque or ulcer commonly on the glans penis or in the coronal sulcus. Investigation is by diagnostic punch or wedge biopsy, although in well-differentiated exophytic lesions definite invasive malignancy may be hard to demonstrate in a limited sample and the clinical impression is then important in designation and planning of management. FNA of inguinal lymphadenopathy may demonstrate metastases as a prequel to radical surgery and regional ilioinguinal lymphadenectomy. Alternatively, nodal enlargement may be solely on the basis of inflammation or infection. CT scan can demonstrate the presence of any ilioinguinal lymphadenopathy that is subclinical in extent. Most penile cancers are superficial and can be treated by limited resection (glansectomy, partial penectomy) with reconstruction of the glans rather than amputation or primary radiotherapy. Accurate assessment of the proximal extent and depth of invasion (e.g. corporal or urethral involvement) by MRI is important to avoid incomplete excision or unnecessarily extensive resection, and in specialist centres this may be determined intraoperatively by frozen section. The treatment goal is complete excision with adequate margins and choice of therapy is related to tumour size, extent of infiltration and destruction of normal tissues. Radiotherapy is reserved for high-stage tumours, recurrences, metastatic disease and patients unfit for surgery. Localized tumours of the prepuce are treated by circumcision. Glansectomy removes the foreskin and glans for carcinoma in situ or localized cancer but there is a higher risk of incomplete removal and local recurrence. Partial penectomy relies on transection of the penis 2 cm proximal to the gross tumour edge but may be precluded in favour of total penectomy because of tumour size, site and destruction. Ilioinguinal lymphadenectomy is for known metastases or negative nodes but poorly differentiated high-risk carcinomas.

**Tumour****Site**

- urethral meatus/glans/prepuce/coronal sulcus/shaft (dorsal/ventral/lateral).

**Size**

- length × width × depth (cm) or maximum dimension (cm).
- tumour thickness (mm) is a gauge of depth of invasion and prognosis.

**Appearance**

- exophytic (warty, verrucous, papillary, fungating).
- superficial spreading (plaque).
- endophytic (sessile, ulcerated, infiltrative).
- pale/pigmented.

**Edge**

- circumscribed/irregular.

**2. HISTOLOGICAL TYPE*****Squamous cell carcinoma***

- 95% of penile malignancies, 70–80 years of age.
- usual type (70% of cases).
- exophytic or endophytic.
- large cell/small cell.
- keratinizing/non-keratinizing.

**variants:**

- verrucous: 5–16% of cases and exophytic with a deep pushing margin of cytologically bland bulbous processes. Prone to multifocality and local recurrence if incompletely excised and may dedifferentiate with radiotherapy. Generally a good prognosis. Can coexist with usual squamous carcinoma.
- spindle cell (sarcomatoid): cytokeratin (34βE12) positive spindle cells associated with a surface epithelial origin or more recognizable in-situ or invasive squamous cell component. A high-grade endophytic cancer with poor prognosis.
- basaloid: comprises 5–10% of cases and is a poorly differentiated aggressive high-grade tumour. Usually ulcerated and endophytic with nests of basaloid cells showing abrupt central keratinization or comedonecrosis.
- warty and papillary: exophytic and well differentiated, the former with koilocytic atypia and the latter irregular, complex papillae and stromal cores.
- mixed types: 25% of cases. Adequate tumour sampling is necessary to find less differentiated components.