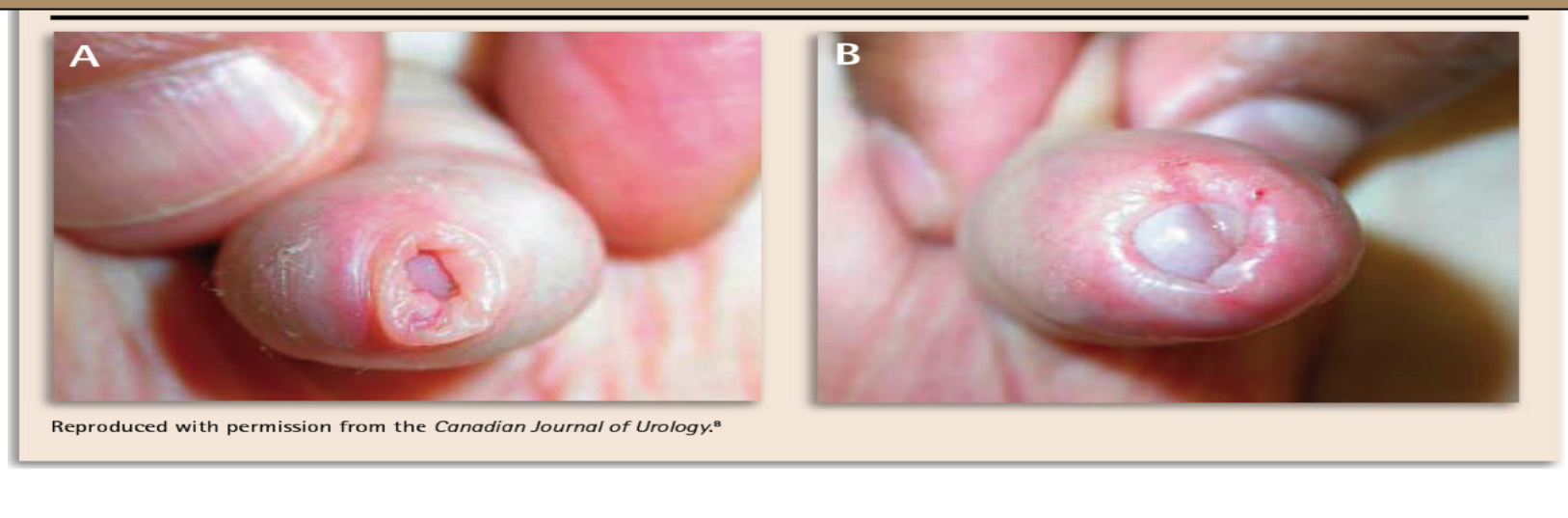
Phimosis,Paraphimosis, Peyronie's disease, Carcinoma Penis

Phimosis

- Phimosis
  - Prepuce cannot be retracted over the glans penis
- Physiologic Phimosis
  - Pliant, unscarred preputial orifice
- Pathologic Phimosis

- Failure to retract secondary to distal scarring of the prepuce



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Pathologic Phimosis

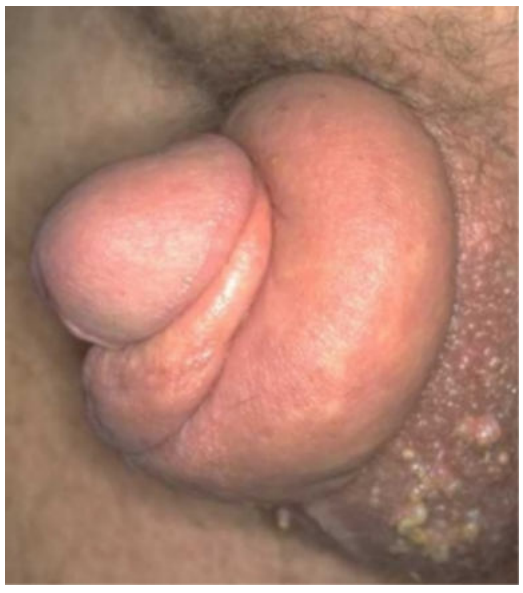
- Occurs mostly by forcefully pulling back the prepuce in infancy
- Scarring after Infection
- Failure of the phimotic preputial ring to retract after childhood

Treatment

- No forceful retraction of the prepuce
- If no retraction at all after 5 years or scarring is present from previous attempts
  - Betamethasone dipropionate 0.05% cream (Diprolene) – no FDA approval under 16 years of age
- Most important: Parent education about the natural process
  - Handouts
- Perform circumcision on parents request

Paraphimosis

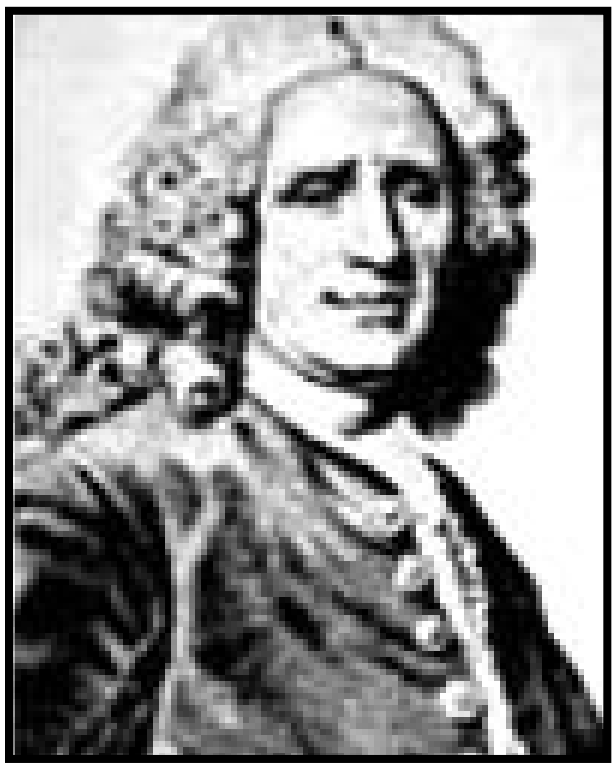
- Tight preputial ring is trapped behind the glans after retraction
  - Very painful
  - Edematous preputial skin and glans
  - Urinary retention
- Requires immediate attention
  - Pain
  - Possible necrosis
- Management
  - Compression
  - Dorsal slit



Peyronie's disease

Definition

- Described by Francois Gigot de la Peyronie in 1743
- Also known as induratio penis plastica
- Fibrotic induration of the penis with concurrent curvature



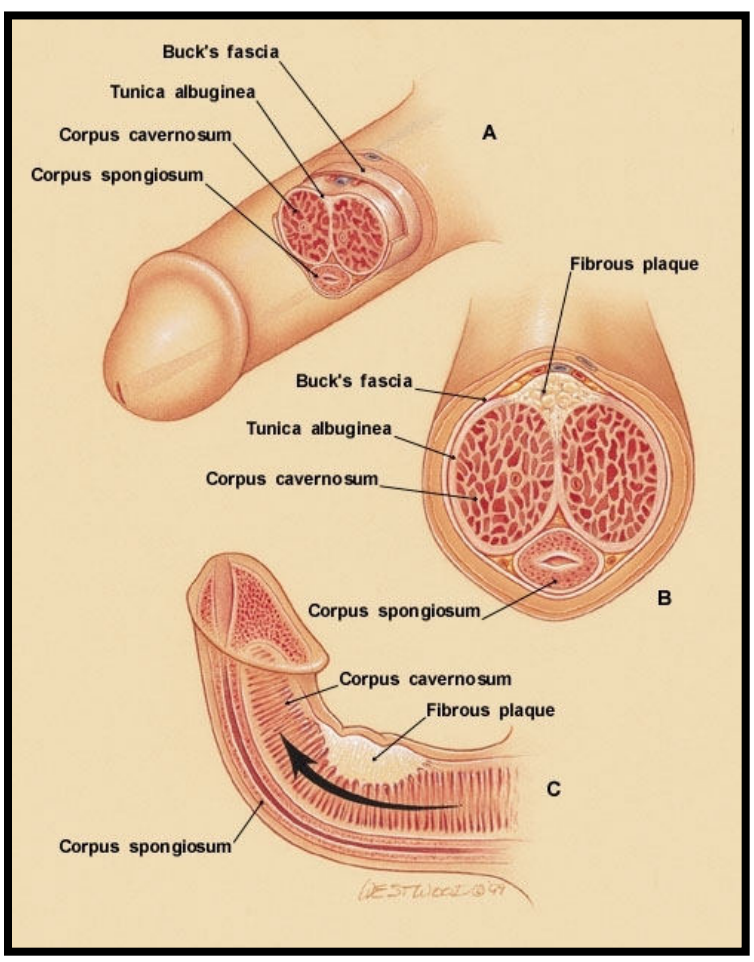
Clinical presentation

- Peak incidence
  - 4th to 6th decades
- Pain and penile curvature during erection
- Difficult intercourse
- Impotence in some cases
- A hard fibrotic mass is felt on palpation

Etiology

- Fibrosing condition of the tunica albuginea
- Repeatitive microtrauma is most probably the inciting event
- Dupuytran’s contracture has been associated with PD
  - Always examine the hands
- Possible genetic aetiology

Etiology



Clinical course

- Most cases are self limiting
- Divided into acute and chronic phase
- In the acute phase
  - Pain
  - Worsening of the deformity
  - Enlargement of the plaque
  - 12 to 18 months duration
- Chronic phase
  - No pain
  - Stable deformity

Treatment

- Medical
  - Usually during the acute phase
  - Oral therapy
    - Vitamin E
    - Potassium para-amino benzoate
    - Colchicine
    - Tamoxifen
    - Pentoxifylline

Treatment

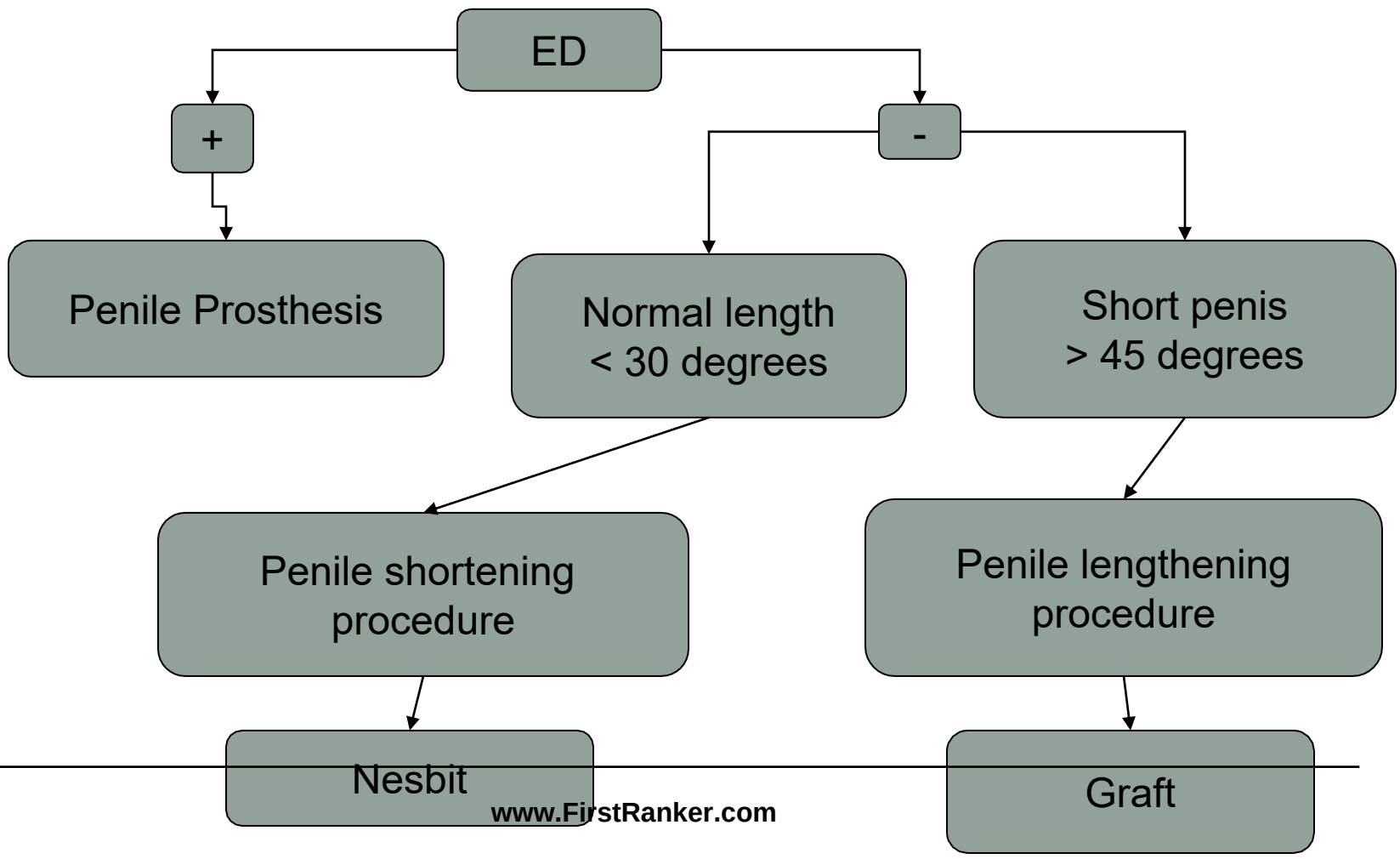
- Transdermal therapies
  - Verapamil
- Intralesional
  - Verapamil
  - INF alpha 2 beta
  - Saline
  - Intralesional therapies not for cure, but more for prevention of progression
- Other therapies
  - ESWL

Surgical treatment

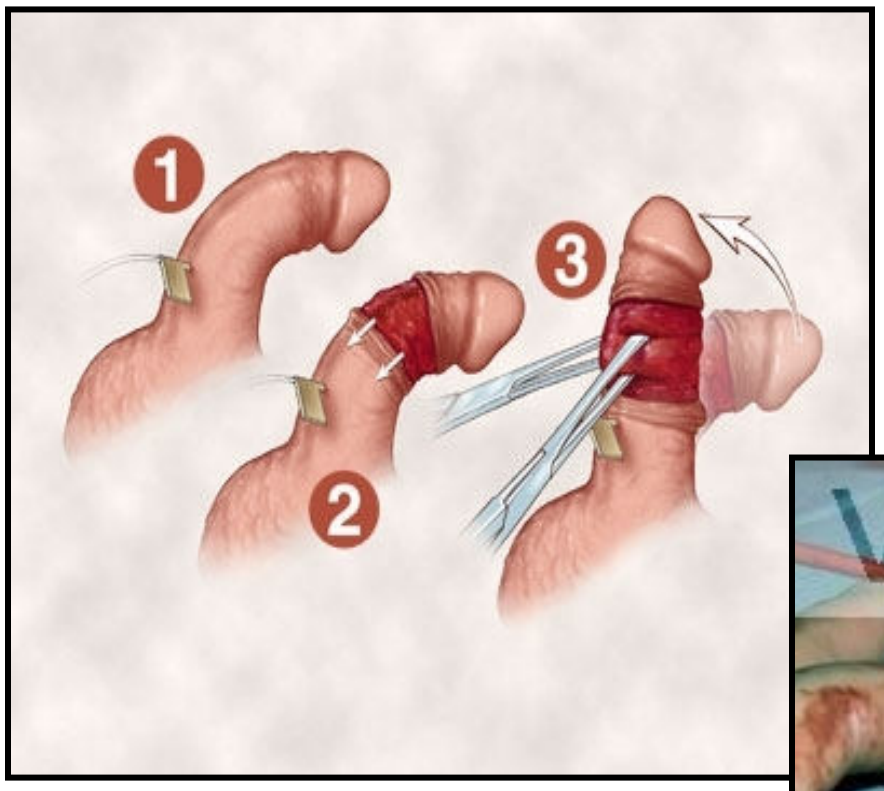
- Reserved for patients with PD for at least 12 months (chronic phase) and a stable deformity for at least 3 months

- 3 groups of surgery
  - Penile shortening
  - Penile lengthening
  - Penile prosthesis

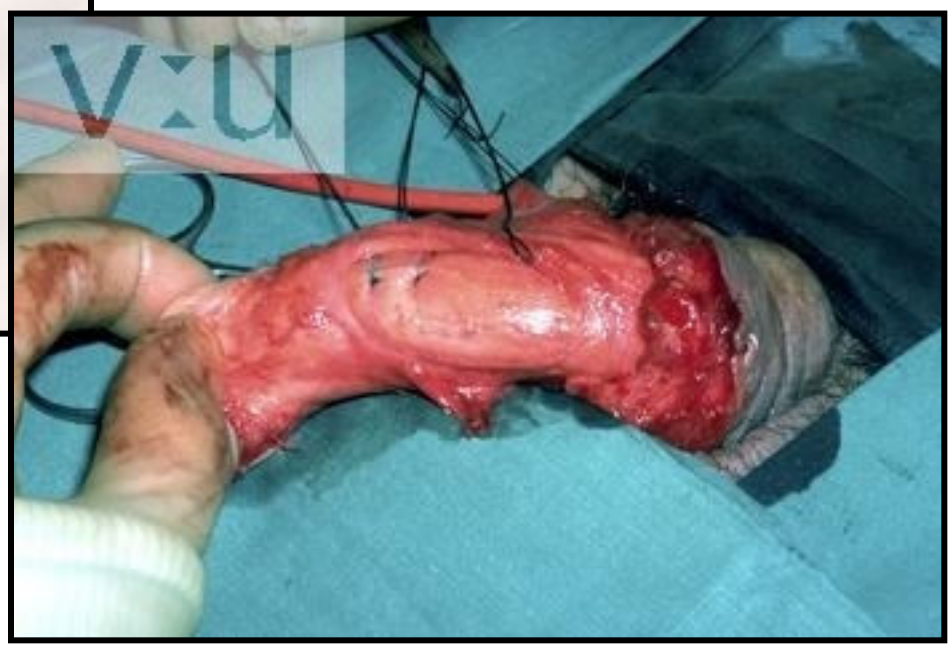
Surgical Treatment



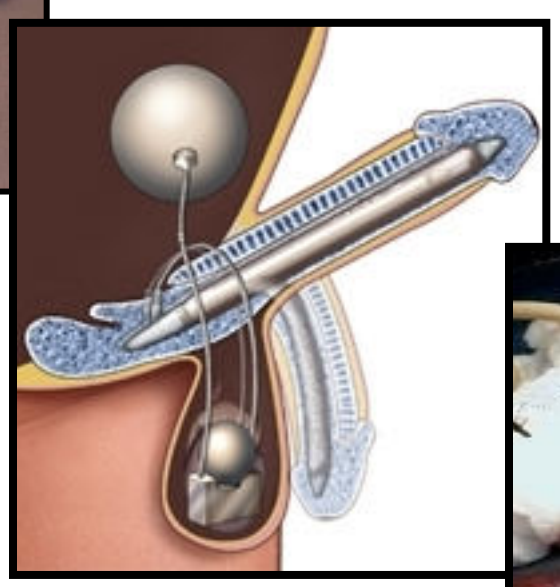
Surgical treatment



Penile Shortening (Nesbit Plication)



Surgical treatment



Penile prosthesis

Carcinoma Penis

Introduction

Uncommon malignancy in developed countries

Higher incidence rates are seen in Africa and Asia (10% to 20%)

Commonly affects those between 50 and 70 years of age

22% of patients are less than 40 years of age

Epidemiology

- Intact foreskin
- Phimosis (25%)
- Precancerous lesions are found in 15%-20% of patients
- Human papilloma virus(HPV 16,18)
- Chronic inflammatory conditions (eg, balanoposthitis and lichen sclerosus et atrophicus)

Premalignant lesions

Lesions sporadically associated with SCC of the penis

- Cutaneous horn of the penis
- Bowenoid papulosis of the penis

Lesion at intermediate risk

- Balanitis xerotica obliterans (lichen sclerosus et atrophicus)

Lesions at high risk of developing SCC of the penis (up to one-third transform to invasive SCC)

- Penile intraepithelial neoplasia (carcinoma *in situ*)
- Erythroplasia of Queyrat and Bowen's disease

Pathology

- Primary malignancies (those that originate from either the soft tissues, urethral mucosa, or covering epithelium)

- Secondary malignancies (ie, those that represent metastatic disease and often affect the corpus cavernosum

- MC: squamous cell carcinoma is found on
  glans: 48%,prepuce: 21%,glans & prepuce:9%,coronal sulcus: 6%, and shaft: <2%

- Primary, non squamous malignancies comprise <5% of penile cancers.
- Sarcomas are the most frequent non squamous penile cancers, followed by melanomas, basal cell carcinomas, and lymphomas

Clinical Presentation

- Area of induration or erythema to a non healing ulcer or a warty exophytic growth
- Palpable inguinal lymphadenopathy is present at diagnosis in 58% of patients (20%-96%)
- In non palpable inguinal lymph nodes at the time of resection of the primary tumor, 20% will found to have metastatic disease

Staging: Two staging systems

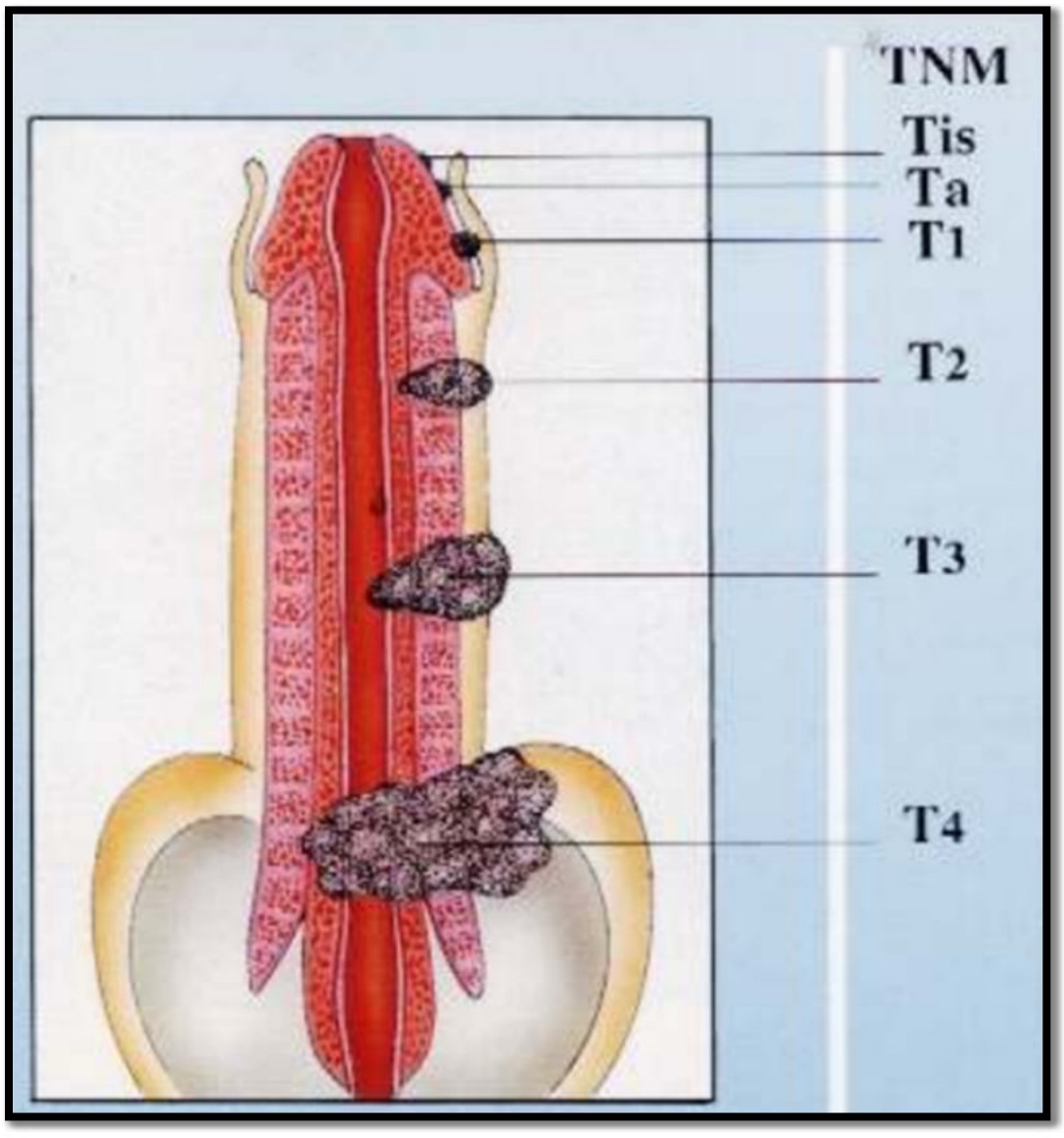
Jackson

Stage	Description
I	Confined to glans of prepuce
II	Invasion into shaft or corpora
III	Operable inguinal lymph node metastasis
IV	Tumor invades adjacent structures; inoperable inguinal lymph node metastasis

Stage	Description
Tumor (T)	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
Tis	Carcinoma in situ
T1	Tumor invades subepithelial connective tissue
T2	Tumor invades corpus spongiosum or cavernosum
T3	Tumor invades urethra or prostate
T4	Tumor invades other adjacent structures
Node (N)	
NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis
N1	Metastasis in a single, superficial, inguinal lymph node
N2	Metastasis in multiple or bilateral superficial inguinal lymph nodes
N3	Metastasis in deep inguinal or pelvis lymph node(s) unilateral or bilateral
Metastasis (M)	
MX	Distant metastasis cannot be assessed
M0	No evidence of distant metastasis
M1	Distant metastasis

AJCC *Cancer Staging Manual,* 5th ed

TNM

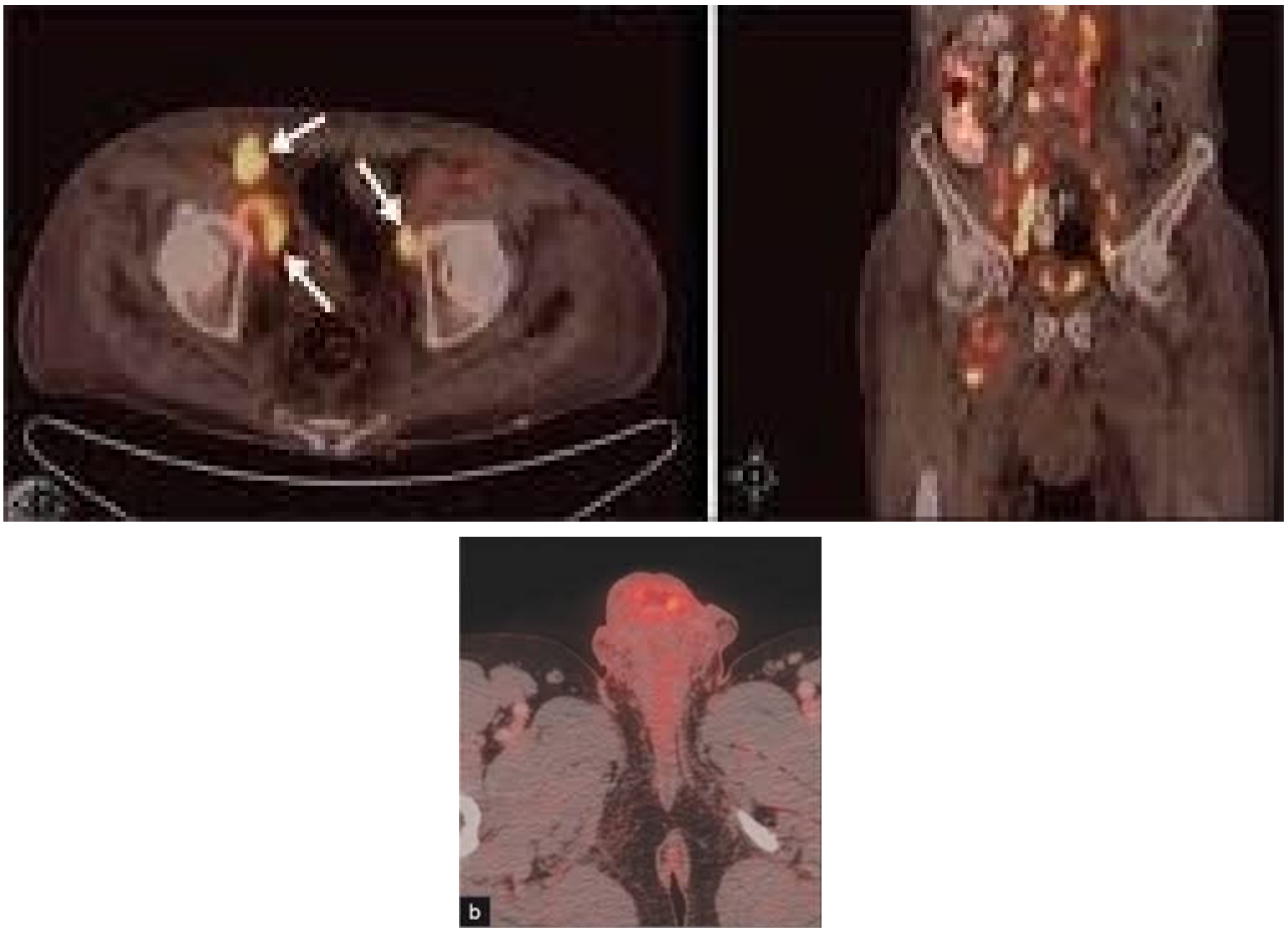


Prognostic Factors

- Grade
- Depth of invasion
- Number of positive lymph nodes
- Unilateral or bilateral inguinal extension
- Pelvic nodes involvement
- Presence of lymph node extracapsular extension

Diagnosis

- Physical examination
- Cytological and/or histological diagnosis
- Chest x-ray
- CT scan/PET-CT scan
- Bone scan



PET CT scan

Treatment of the Primary Lesion

- Small tumors limited to foreskin:
- circumcision+2-cm margin

Circumcision alone, especially with tumors in the proximal foreskin, may be associated with recurrence rates of 32%

- Small superficial penile cancers:
- Moh's micrographic surgery
- Radiation therapy (EBRT/brachytherapy)
- RT has yielded local control rates similar to surgical resection:

- Carcinomas involving the glans & distal shaft:
- partial penectomy excising 1.5 to 2 cm of normal tissue proximal to the margin of the tumor.

This should leave a 2.5- to 3-cm stump of penis

- Bulky T3 or T4 proximal tumors involving the base of the penis:

  total penectomy with perineal urethrostomy

Lymphadenectomy in Penile Cancer

- Lymphadenectomy is indicated in patients with palpable inguinal lymphadenopathy that persists after treatment of the primary penile lesion following a course of antibiotic therapy

  Srinivas 1987, Ornellas 1994

N0 Groin: Treatment Options

- Fine needle aspiration cytology
- Isolated node biopsy
- Sentinel node biopsy
- Extended sentinel LN dissection
- Intraoperative lymphatic mapping
- Superficial dissection
- Modified complete dissection

Fine needle aspiration cytology

- Requires pedal / penile lymphangiograhy for node localization & aspiration under fluoroscopy guidance
- Multiple nodes to be sampled
- Sensitivity 71% (Scappini 1986, Horenblas 1993)
- Can provide useful information to plan therapy when +ve

Sentinel Node Biopsy

- Based on penile lymphangiographic studies of Cabanas (1977)
- Accuracy questioned: False –ve 10=50% (Cabanas 1977, McDougal 1986, Fossa 1987)
- Extended sentinel node biopsy: 25% false –ve
- False –ve due to anatomic variation in position of sentinel node

Unreliable method: Not recommended

Intraoperative Lymphatic Mapping

- Potential for precise localization of sentinel node
- Intradermal inj of vital blue dye or Tc- labeled colloid adjacent to the lesion
- Horenblas 11/55: All +ve False –ve in 3
- Pettaway 3/20: All +ve No false –ve
- Tanis (2002): 18/23 +ve detected (Sensitivity 78%)

Promising technique for early localization of nodal metastases
Long-term data needed

Superficial Inguinal LND

- Removal of nodes superficial to fascia lata
- If nodes +ve on FS: Complete inguino-pelvic LND
- Rationale: No spread to deep inguinal nodes when superficial nodes –ve (Pompeo 1995, Parra 1996)
- No clinical evidence of direct deep node mets when corporal invasion present

Complete Modified LND (Catalona 1988)

- Smaller incision
- Limited inguinal dissection (superficial + fossa ovalis)
- Preservation of saphenous vein
- Thicker skin flaps
- No sartorius transposition

Identifies microscopic mets without morbidity

(Colberg 1997, Parra 1996)

Cancer Penis: Management of N+ groin

- Surgical treatment recommended for operable inguinal metastatic disease
- Most patients with inguinal LN mets will die if untreated.
- 20-67% patients with metastatic inguinal LN disease free 5 years after LND.
- Better survival 82-88% with single / limited mets

Pelvic Lymphadenectomy

- Staging tool
- Identifies patients likely to benefit from adjuvant chemo
- Adds to locoregional control
- No additional morbidity
- If pre-op pelvic node identified : NACT followed by surgery in responders

Value of pelvic LND unproven

Patients with minimal inguinal disease & limited pelvic LN mets may benefit

Inguinopelvic Lymphadenectomy: Indications for adjuvant therapy

- >2 metastatic inguinal nodes
- Extranodal extension of disease
- Pelvic lymph node metastases

Penile Cancer
Management of fixed nodes

- Neoadjuvant chemo + surgery in responders
- Palliative chemotherapy
- Chemotherapy + radiation therapy

Complications of lymphadenectomy

- Persistent lymphorrhoea
- Wound breakdown, necrosis, infection
- Lymphocyst
- Femoral blowout
- Lymphangitis
- Lymphoedema of lower extremity

Conclusion

- **Uncommon disease**
- **No systematic study & complete absence of RCTs**
- **Small no of patients over a long time**

- **RCTs to develop guidelines essential**