Benign prostatic hyperplasia

AKA – Nodular hyperplasia.

BPH, also called as nodular hyperplasia is – non malignant proliferation of stromal & epithelial components in the periurethral (transition) zone of prostate, leading to nodular formation & urinary obstruction.

(✗ BPH is not premalignant)

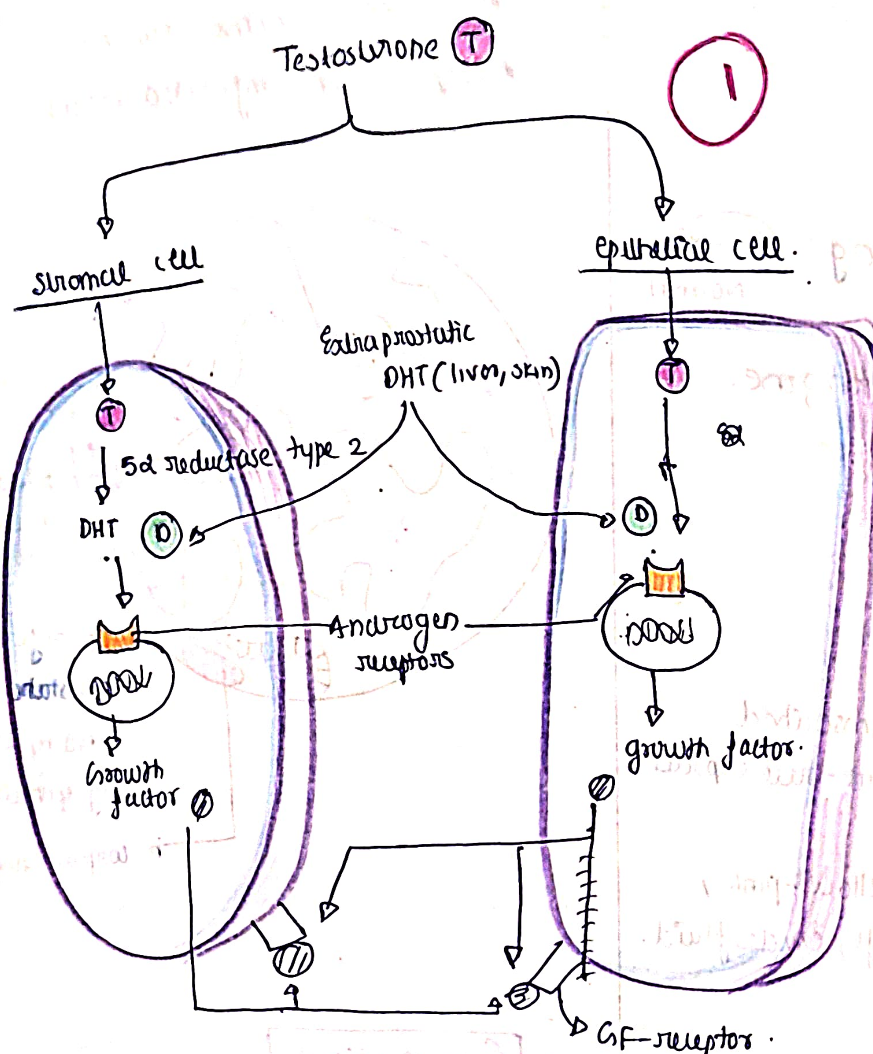
m/c benign prostatic disease in men > 50 years.

Etiopathogenesis.

- Role of (DHT) :

derived from testosterone via Type : 2 5α-reductase in stromal cells.

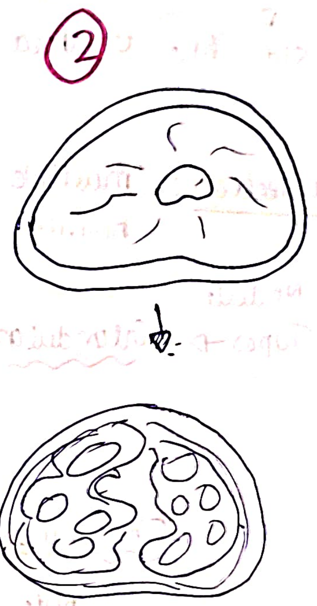
- DHT → binds → Androgen receptors
  ↓
  stimulate growth factor genes.
  ↓
  ↑ stromal proliferation
  ↓ Epithelial cell death.



3 figures in Samsung Note

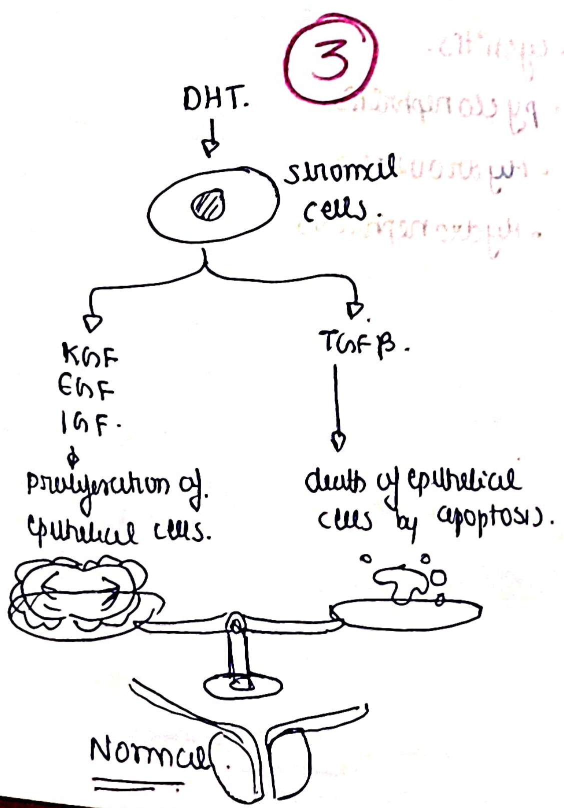
DHT - 10X potent than testosterone.

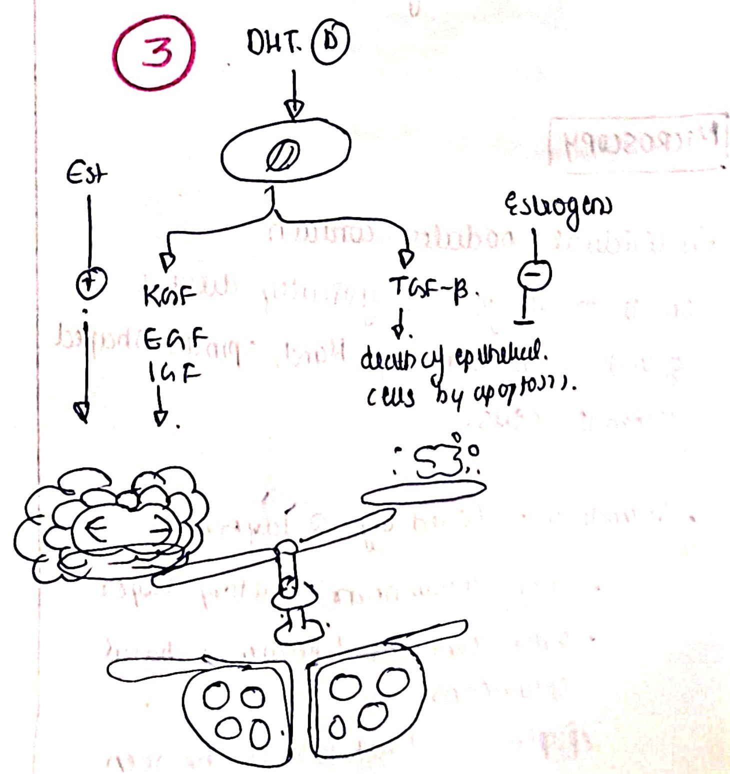
5α reductase type 2 is absent in epithelial cells. X



→ ↑ proliferation of stromal cells

→ ↓ death of epithelial cells.





MORPHOLOGY

GROSS

- prostate weight : 60 – 100g (2-4X) Normal.

Site
- nodules arise from transition zone.
- compression of urethra
  ↓
  slit-like urethra

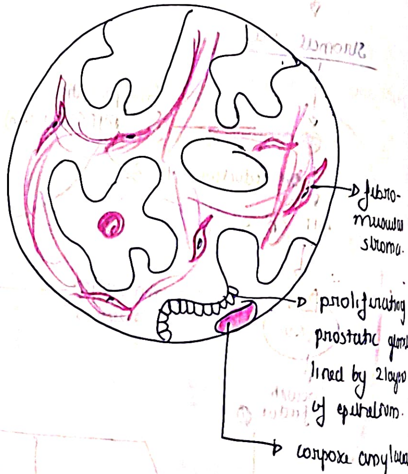
Cut Section : multiple circumscribed nodules. without true capsule.

Nodule Types → Glandular : yellow-pink, soft, exudes fluid.

Fibromuscular : pale gray, firm, no fluid.

MICROSCOPY

- Individual nodules contain small to large to cystically dilated glands, separated by bland, spindle shaped stromal cells.
- Glands are lined by 2 layers
  - inner columnar secretory layer
  - outer cuboidal / flattened basal epithelium.
  - papillary structures can be seen.
- may see reactive squamous metaplasia in infarcted areas.



Complications

- Hypertrophy of bladder
- Bladder diverticula.
- cystitis.
- pyelonephritis.
- Hydroureter.
- Hydronephrosis.

Clinical features

- frequency, nocturia.
- Hesitancy, poor stream.
- dribbling, overflow.
- dysuria.
- urinary retention

Treatment

- mild cases – lifestyle mody ✓.
  ↓ caffeine, alcohol
  fluid restriction before bed

Medical therapy

- α blockers
- 5 α reductase inhibitors

Surgical

- TURP – transurethral resection of prostate.

Premalignant lesions of Penis

- premalignant lesions are dysplastic epithelial changes of the penile squamous epithelium with an intact BM, representing precursor lesions of SCC collectively termed

↓

Penile Intraepithelial Neoplasia.

WHO classification

precursor squamous lesions.

1. HPV associated PIN.
   - Basaloid (PeIN)
   - warty PeIN
   - warty-Basaloid PeIN.
2. HPV-independent PeIN.
   - differentiated PeIN.

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1. HPV associated PeIN

- Etiology → high risk HPV 16, 18.

Morphology Gross: flat to slightly elevated, erythematous plaques well demarcated, irregular outline. usually solitary.

m/c

- Dysplastic sq. epithelium with atypical keratinocytes throught epithelial thickness.
- mitosis even above basal layer.
- Koilocytes.

eg: Erythroplasia of Queyrat (glans / prepuce)

Bowen disease. (shaft / skin)

Bowenoid papulosis - multiple reddish-brown papules in sexually active adults. {never invades}.

2. HPV Independent

etiology - Chronic inflammatory / traumatic conditions

eg: lichen sclerosis

Gross

Single, white or pink plaque with atrophic, sclerotic skin.

m/c

- thickened epithelium with acanthosis, para keratosis, elongated rete ridges.
- dyskeratosis, keratin pearl formation
- atypical keratinocytes restricted to basal & parabasal layers.

Bowenoid papulosis

- unique ✓
- self limited
- no progression to invasive Ca
- HPV - 16, 18.
- occurs in sexually active young adults men.
- contrast to PeIN
  - → Multiple
  - → younger age.
- undergoes spontaneous regression
- ✗ never to invasive Ca.

Morphology

Gross: multiple, brownish or violaceous papules - plaques.

m/c: proliferation of atypical cells high N:C ratio. Sharply demarcated from epidermis like warts.