## **BPH & Bladder Output Obstruction (BOO)**

- It is characterized by an increase in epithelial & stromal cell numbers in the **transitional zone** of the urethra.
- **Testosterone** —> by  $5-\alpha$  reductase —> **DHT** —> proliferation ..... Not a pre-malignant
- It's the MCC of BOO, in 50% in >60 yrs, 90% in >80 yrs
- → Obstruction has 2 components
  - 1) Static component

- 2) Dynamic component - Mediated by smooth Ms contraction / alpha 1a
- Mediated by the **volume effect/ tissue / alpha1b**
- → Symptoms: Poor flow(Intermittent), Dribbling, Hesitancy, incomplete voiding, Frequency, Urgency, Nocturia
- → Do DRE .. palpate it using one finger —> 20 for one finger from one side to the other (4 fingers—> 80)
- → Investigations:
  - 1- Basic laps (CBC, KFT, UC, UA), PSA, Post-void residual urine volume (PVR), HbA1c
  - 2- Free Flowmetry

- 3- TRUS
- 4- Cystoscopy / with hematuria
- → Complications of BOO:
  - 1- Thickening of bladder wall (increased flow resistance —> increased pressure inside bladder —> hypertrophy —> trabeculations —> saculation —> diverticulation —> urine trapping and increased residual volume -> chronic urinary retention)

    2- Chronic urinary retention ~ Paints -> Admit -> Admi

  - 3- Stones
  - 4- Infections: UTI, epididymitis
  - 5- **Diverticulation** predisposes to **bladder tumor**
  - 6- Progressive hydronephrosis —> impaired renal function —> renal failure
- → Management
  - Medical Treatment

Non selective

24-48 hrs to start ... 3 weeks for best affect.

SEs —> low BP, Dizziness, Nasal congestion

Selective

D

Tamsulocin/ omnic Silodocin

8 hrs to start ... 7-10 days for best affect. SEs —> Retrograde Ejaculation

- for Adult

alpha reductase inhibitors / type || in prostate

6-9 months for best effect, decrease its size 25-30%, decrease TPSA 50% Finasteride.. for II SEs —> decrease libido , Gynecomastia, loss of energy, Ejaenhation dysfunction Dutaseride .. for both ereelile

- **Tadalafil**

- Surgical treatment
- → Indications :- Failure of max medical Tx, severe bothersome Sx regardless of max medical Tx Recurrent UTI & UB stones, Recurrent severe gross Hematuria, Reccurent Urinary Retention, Renal Failure due to distal Obs, Patient's desire
  - 1) Minimally invasive —> 3 months to appear the result Transurethral radiofrequency needle ablation (TUNA) Transurethral microwave thermotherapy (TUMT) High-intensity focused ultrasound (HIFU)

## 2) Transurethral Resection of Prostate / TURP

- o Removal of the obstructing tissue of BPH .. leaving the compressed outer zone intact (surgical capsule)
- o By **electrically-heated wire loop** is used through a **resectoscope** to cut the prostate tissue.
- At the end of resection —> the cut chips is evacuated using evacuators
- SEs :- Infx , Bleeding , Blader neck contracture , loss fertility, TURP syndrome
- → fluid overload and iso-osmolar hyponatraemia (cardiological and neurological manifestations) after prolonged (>1.5 hours)
- → Due to large volumes of irrigation fluid being absorbed through venous sinuses / *Glycine* 1.5% in H2O
- → Glycine acts as an inhibitory CNS neurotransmitter at GABA receptors and —> potentiates NMDA receptors
- → Glycine also has cardio-depressant effects and may have renal toxicity.

## 3) Open (suprapubic/transvesical) prostatectomy

- Indications —> Large prostate (>100g) / Failed TURP / Urethra is too long for resectoscope / pt with inguinal hernia / large bladder stones
- o Contraindications —> small fibrous prostate, PC, abd hematuria.

## → Flowmetry

- The curve represents the flow rate of urine during the voiding process (flow curve)
- o Patient should void at least **200 cc** for max flow rate to be accurately calculated.
- Normal flow curve is a bell shaped one with maximum flow rate Q max being
  - For male 20-25 ml/sec
  - Female 25-30 ml /sec
- The curve is not a bell shaped, with low rate & with hesitancy —> BOO/ BPH
- The curve is Box shaped —> Urethral stricture

