

Scrotal Symptom:

① torsion and epididymo orchitis.

① Symptom

① torsion:

Sudden pain / Swelling / hotness / preceded by minor trauma / in young and adolescent.

② epididymo orchitis:

gradual pain / swelling / hotness / presence of urinary symptom / in adult associated with sexual active.

② Sign

① torsion:

Increase pain when elevated testes / absent of cremasteric reflex

② epididymo orchitis:

Normal position testes / presence of cremasteric reflex / elevated testes ↓ pain.

\* Imaging: by duplex ultrasound

① torsion → absent blood flow

② epididymo orchitis → presence of blood flow.

☒ In complete torsion operation must be within first 6 hours.

☒ In acute ~~scrotum~~ Scrotum → we ask about age of patient to differentiate between 2 prevails type.

- \* Youngest age of torsion is intrauterine torsion.
- \* Management of mis torsion → analgesia and antibiotic.

Indication of Foley's catheter → 
 ↗ Therapeutic  
 ↘ diagnostic

\* Therapeutic Indications

- 1 relief of obstruction.
- 2 Irrigation of bladder to prevent clot formation.
- 3 Drainage of urine to allow bladder to heal if it has been opened (due to trauma, ...).
- 4 prevention of uretric reflex.
- 5 to empty the bladder before, after and during operation on abdomen or pelvis.
- 6 For delivery of bladder instillation (Intravesical chemotherapy or immunotherapy).

\* diagnostic Indications

- 1 monitoring of urine output post operatively or in unwell patient.
- 2 to identify bladder neck during surgery.
- 3 Insert contrast or take urine sample.

\* In ~~suprapubic~~ Suprapubic urine sample culture is positive in any growth.

\* Size of Foley Catheter measured by French  $\rightarrow$  1 French = 0.33 mm.

\* External Circumference of Foley Catheter represent Internal Circumference of Urethra.

Foley's Catheter classified according to

① Number of ways

- ① one way Catheter :- For one time drainage.
- ② two way Catheter :- one For drainage  
second one For balloon inflation (balloon use to fixation of catheter in bladder).
- ③ 3 way Catheter :- ① one For drainage ② For balloon inflation and third one For Irrigation to prevent clot formation.

② according to material used

- ① latex  $\rightarrow$  maximum duration  $\downarrow$  month and associated with more risk of UTI.
- ② Silicon  $\rightarrow$  less risk of UTI.

acute and Chronic urine retention

① acute urine retention

Painful, severe supra pubic pain, elderly, sudden due to obstruction, bladder capacity (500-700)

Ⓢ Chronic urine retention &

Painless, gradual, due to neurogenic bladder or obstruction, associated with overflow incontinence renal failure and post-obstruction diuresis. Capacity > 1000.

Pathogenesis of BPH &

Prostate → 40% (Stroma)  
 ↓ 60% (epithelium)

① Chronic obstruction due to

Increase tone of Stroma (Smooth muscle).

② Mechanical obstruction → Increase size and growth of epithelium.

Medical treatment of BPH:

① alpha blocker → effect start within 48 hours,

② 5-alpha reductase inhibitor → inhibit epithelium growth, effect appear after 2 months and maximum within 6 months.

Causes of urethral ~~strict~~ strictures

1. Iatrogenic 2. Infection

3. trauma 4. Congenital ~~strict~~ stricture of smooth muscle

\* Screening of Prostat Cancer → PSA, per-rectal examination.

PSA Parameters

① PSA ratio  $\rightarrow \frac{\text{Free PSA}}{\text{Total PSA}}$

If ratio  $> 18\%$  mainly cause is benign  
 & If ratio  $< 18\%$  you have to consider malignancy.

② density

density =  $\frac{\text{Total PSA}}{\text{Volume}}$

$< 18\%$  Benign.

$> 18\%$  Malignant.

③ ~~rate~~ velocity

$\rightarrow \frac{\text{Total PSA}}{\text{PSA}}$

Normal  $\rightarrow < 15\%$  / Year

If it  $> 15\%$   $\Rightarrow$  malignancy.

④ doubling time

For Follow up of prostate cancer and take drug as chemotherapy.

⑤ Treatment of BPH:

① life style change (avoid spicy food, alcohol, caffeine)

CSL  $\rightarrow$  Urination

② Medical  $\rightarrow$  ① alpha blocker

② 5-alpha reductase ③ anti-cholinergic

## Indication For surgery

- ① ~~Failure~~ Failure of medical treatment.
- ② recurrence, hematuria, UTI, urine retention.

## Indication For open Surgery in BPH:

① If size  $> 100$  mg      ② uncontrolled bleeding  
in TURP.

③ Inability to put patient in lithotomy  
position.

④ urethral stricture or long urethra.

## grade of varicocele:

grade 1  $\rightarrow$  Not visible / only in Valsalva maneuver

grade 2  $\rightarrow$  Not visible but palpable.

grade 3  $\rightarrow$  visible.

## Indication of surgery in varicocele $\rightarrow$

1. testicular atrophy.

3. Sub-fertility.

2. Pain.

4. Young patient No pain  
but visible.

⊛ Symptom of enlarged prostate:

- ① Terminal dribbling
- ② hesitancy, incomplete bladder empty and dysuria.

⊛ International prostate symptom score: (IPSS)

Total score = 35

① mild

② moderate

③ severe

< 10

< 17

> 17

(need medical treatment  
to reduce tension on  
prostatic urethra)

Medical treatment →

- ① alpha blocker.
- ② 5-alpha reductase inhibitor →
- ⊛ 5-alpha reductase converts testosterone to active form which increase size of prostate gland

\* alpha blocker minimize resistance but not reduce size.

Indication for surgery in BPH:

1. urine retention.
2. stasis lead to recurrent infection.
3. bladder stone secondary to stasis.
4. recurrent gross hematuria.
5. Patient Preference.

\* TURP → Most Surgeries used in prostate enlarged  
 Contraindication For TURP →

- ① huge prostate
- ② hypervolemic hyponatremic Syndrome.
- ③ Inability to put patient in lithotomy position
- ④ large stone.

\* hypervolemic hyponatremic syndrome →  
 glycine (substance used in TURP surgery) when  
 surgery prolonge it absorbed by circulation  
 and produce hypervolemic <sup>and</sup> it produce  
 Pseudohyponatremic.

Complication of TURP →

Immediate Complication & injury to structure  
 and bleeding.

Intermediate → 1) hypervolemic hyponatremic

2) urine retention.

late → stenosis / urethral stricture,  
 retrograde ejaculation.

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