Bladder CA

- It's 2nd M.C urological Malignancy, M.C in white **males** around the age of **80**.
- RF: **Smoking** (most important), drugs (phenacetin & Cyclophosphamide), Chronic bladder inflammation, stones, long-term catheters, Personal or family history, Pelvic radiotherapy

- Tumor spread:
  - Direct extension: detrusor muscle, urethral orifices; prostate, vagina, bowel, pelvic side walls
  - Lymphatic infiltration Iliac & Para-aortic LN
  - Hematogenous spread: Lung, liver, bone, Adrenals.
  - Implantation Into wounds / Percutaneous Catheter...

- Histological grading (differentiation):
  G1 (well differentiated), G2 (Moderately), G3 (Poorly, high grade).

- Staging (T stage)
  - Tis / CTS (Not invading Basement mem.)
  - **Ta** noninvasive Papillary Carcinoma/ confined to **mucosa**
  - **T1** subepithelial **Connective tissue**
  - **T2** Invasion to muscularis propria (**Detrusor**) … a : inner half &. b : outer half
  - **T3** Invasion to **perivesical fat**
  - **T4** invasion to other organs ….. a : prostate & b : pelvic or abdominal wall

prostate . CA
T3 a → capsule
b → SV
T4 → Bladder

- Presentation:
  - Hx: Painless Macroscopic total hematuria, LUTS, recurrent UTI & Pneumaturia (Colovesical Fistula) LL swelling (lymph. /veinous Obstruction), *Pain occur at T4*
  - PE: Suprapubic Mass (T4), Bimanual exam in F & DRE (mass above or Involving Prostate), Pallor (due to anemia).

- Investigations:
  CT urography, Urine Cytology (+ve in CIS/ high grade) , TURBT (Dx &Tx), Urine based markers nuclear matrix pt 22, UA
  If Biopsy-Proven Muscle-Invasive Bladder CA → Staging Investigation (CT, MRI, bone scan)

- Types

1) TCC urothelial Carcinoma (90%):
   Single or multifocal - Superficial or muscle Invasive
   MC in the Floor (>Carcinogen exposure)
   a. Papillary (GI / G2) 2Ta(Mucosa / Superficial) T1 (Sub mucosa)
   b. Solid/Mixed (G3) 50% are Muscle-Invasive.
   c. CIS/G3 (Poorly Differ.): Confined to epithelium, aggressive 100%, +ive urine cytology.

2) SCC:
   - **S**olid, ul**c**erative (Muscle-Invasive), Associated with **S**moking, **s**chistsoma
   - Can be due to: chronic inflammation / Bladder stones, Catheters
   - bilharzial has better prognosis than non-bilharzial.

3) Adenocarcinoma (Bladder extrophy):
- Solid, ulcerative (Muscle - Invasive).
- G3=> Poor Prognosis: bowel Implantation or bladder extrophy: (10-20 yr)
- Strong Association with: Cystitis glandularis
- 1/3 cases originate in the urachus at dome of Bladder

4) Others: Pheochromocytome, Melanoma, Lymphoma & Sarcoma

- Treatment: According to the Type & Staging

- <T2 (Tis, Ta, T1)→TURBT +
  - Low grade(G1, G2)→intravesical CTX (adriamycin "doxorubicine" and mitomycin)
  - High grade (G3, CIS)→intravesical BCG immuno Tx)

- ≥ T2 (muscle-invasive: T2-4, SCC, Adenocarcinoma)
  - M& F : Radical cystectomy+ ileal conduit
  + In ♂→prostatectomy. So, radical cysto-prostatectomy
  + in ♀→anterior pelvic exenteration

- TURBT Complications: Bleeding, sepsis, bladder Perforation, Incomplete resection, urethral Stricture
- Mitomycin C complications: dermatitis on external genitalia, filling type LUTS.
- Intravesical BCG (Immunotherapy) at least 2 weeks post TURBT:
  - Administered via urethral Cath. & held in bladder 1 h.
  - Complicated by: high fever; requiring Anti-TB for 6 months, with INH and pyridoxine
  - can cause granulomatosis Prostatitis & epididymo- orchitis
  - Contraindicated In: Pregnancy, TB Pts, Immunosuppressed, Active UTI, *traumatic catheterization*, hematological malignancy, gross hematuria, liver cirrhosis.
  - Follow up: Cystoscopy & Cytology (ever 3 months For 2 years -> every 6 months for 2 years then yearly.