Renal & Scrotal Surgery

STONES • TORSION • HYDROCELE • TUMORS **KMU - FINAL YEAR SURGERY**

1. NEPHROLITHIASIS (STONES)

Q: What is the Gold Standard Investigation for Renal Colic?
Non-Contrast CT KUB (NCCT).

Q: Investigation of choice in Pregnancy/Children?
Ultrasound KUB (No radiation).

Q: Which stones are Radio-Lucent (Invisible on X-ray)?
Uric Acid, Xanthine, Matrix stones.

Q: What is the composition of "Staghorn" calculi?
Struvite (Magnesium Ammonium Phosphate).

Q: Which organism causes Staghorn stones?
Proteus mirabilis (Urease positive).

Q: Management of stone < 5mm?
Conservative (Hydration + Analgesia). 90% pass spontaneously.

Q: Management of Renal Stone < 2cm?
ESWL (Shock Wave Lithotripsy).

Q: Management of Renal Stone > 2cm?
PCNL (Percutaneous Nephrolithotomy).

Q: Management of Distal Ureteric Stone?
URS (Ureteroscopy) + Laser.

2. HEMATURIA & DYSURIA

🚨 **THE RED FLAG RULE**
Q: Painless Hematuria in a patient > 40 years?
Bladder Cancer (TCC) until proven otherwise.

Q: Dysuria + Sterile Pyuria (Pus+, Culture-)?
Suspect **Renal Tuberculosis**.

Q: Terminal Hematuria (End of stream) suggests?
Bladder neck or Prostatic pathology.

Q: Triad of Renal Cell Carcinoma (RCC)?
Hematuria + Flank Pain + Mass (Rarely seen together).

3. ACUTE SCROTUM (TORSION)

🚨 **SURGICAL EMERGENCY**
Q: Clinical presentation of Torsion?
Sudden severe pain, Nausea, High-riding testis.

Q: What is the underlying deformity?
Bell-Clapper Deformity.

Q: Prehn's Sign in Torsion?
Negative (Lifting scrotum does NOT relieve pain).

Q: Management?
Immediate Scrotal Exploration (Don't wait for USG).

Q: What procedure is done?
Bilateral Orchidopexy (Fix both sides).

4. EPIDIDYMO-ORCHITIS

Q: Most common organism in young males (< 35)?
Chlamydia Trachomatis (STI).

Q: Most common organism in older males (> 35)?
E. Coli (UTI/BPH associated).

Q: Prehn's Sign in Epididymo-orchitis?
Positive (Lifting scrotum relieves pain).

5. STAGES OF EPIDIDYMO-ORCHITIS

Stage	Clinical Features
Acute	Fever, Redness, Swelling, Severe Pain. Rx: Antibiotics.
Chronic (Non-TB)	Persistent pain, Thickened epididymis. Often due to stricture/BPH.
Chronic (TB)	"Beaded" Vas Deferens. "Craggy" Epididymis. Sterile Pyuria. Cold Abscess/Sinus.

Hydrocele & Tumors

TUMOR MARKERS • SURGICAL PROCEDURES • STAGING **KMU - FINAL YEAR SURGERY**

6. HYDROCELE

Q: Definition?
Collection of serous fluid between parietal and visceral layers of Tunica Vaginalis.

Q: Two classic physical signs?
1. Brilliant Transillumination.
2. You can "get above" the swelling (unlike hernia).

Q: Primary vs Secondary?
Primary: Defective absorption. Large, Tense.
Secondary: Due to Tumor/Infection. Lax, smaller.

Q: Surgery for Large/Thin-walled Hydrocele?
Jaboulay's Procedure: Eversion of sac behind testis.

Q: Surgery for Thick-walled Hydrocele?
Lord's Plication: Plicating (folding) the sac.

7. SCROTAL SWELLING CHEAT SHEET

Condition	Key Feature
Hydrocele	Transilluminates. Get above (+).
Inguinal Hernia	Cough Impulse. Get above (-).
Varicocele	"Bag of Worms". Disappears lying down.
Epididymal Cyst	Cyst separate from testis. Clear fluid.
Spermatocele	Cyst containing sperm (milky fluid).

8. TESTICULAR TUMORS

🚨 **THE GOLDEN RULES**
Q: Presentation?
Painless, hard, irregular lump in young male (20-40y).

Q: Why is Biopsy CONTRAINDICATED?
Spreads cancer to scrotal skin/lymphatics.

Q: Lymphatic spread goes where?
Para-aortic lymph nodes (Renal hilum level).

9. TUMOR MARKERS

Marker	Seminoma	Non-Seminoma
AFP	**NEVER Raised**	Raised (Yolk Sac)
bHCG	Raised (10-20%)	Raised (ChorioCA)
LDH	Raised (Tumor load)	Raised

10. MANAGEMENT

Q: Initial Surgical Management for ALL types?
Radical Inguinal Orchiectomy (High ligation at internal ring).

Q: Which type is Radio-sensitive?
Seminoma. (Non-Seminomas need Chemo).

Q: Commonest site of metastasis?
Lungs (Cannonball metastases).

Q: Risk factors?
Undescended Testis (Cryptorchidism) - 40x risk.