

Urology.

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Topics →

- ✓ Pelvic Ureteric Junction Obstruction
- ✓ Kidney Damage by Trauma.
- ⊙ Kidney stone
- ⊙ RCC
- ✓ Epididymus orchitis
- ✓ T. Torsion.
- ✓ Urethral stricture.
- ✓ BPH

⇒ 22 yr. Female presented in OPD with complain of left-flank pain for last 02 months off and on. On Ultrasonography moderate - Hydronephrosis + hydroureter.

- D/Diagnosis
- Investigations
- Treatment

D/Diagnosis -

- ① - Pelvic ureteric Junction Obstruction
- ② - Impaired flow of urine from kidney to upper-ureter.
- ③ - Renal stones
- ④ - Renal Failure
- ⑤ - RCC

Diagnosis :

History - Flank pain

Ultrasonography - Hydronephrosis
Hydroureter

MCLUG

X-ray KUB

⁹⁹Tc DTPA isotopes

Treatment :

Balloon Dilation / Cut with hot knife

Anderson hynes Dismembered pyeloplasty

Endoscopy pyelotomy

ESWL

URS

Partial Nephrectomy

Laparoscopic "

Q- 30 yr. male is presented in emergency e H/O fall + Bruise on left loin. Pulse 105/min, BP 90/50 FAST → Pericolic hematoma.
Intact spleen Blood in Urine.

- Diagnosis
- Investigation
- Rx.

①- Diagnosis - Left sided Kidney Damage by Trauma injury.

②- How to diagnose →

①- History :

90% Blunt Trauma Hx

Pain + Hx of Trauma in flank area

Hematuria

Bruising

②- USG :

Capsular Hematoma

CT-scan :

I No laceration

II <1cm laceration

III >1cm laceration

IV 9value CT

V 9value Hilum Full Kidney

One shot IVU

Asses The Kidney function of
contralateral Kidney

Use in emergency.

Treatment :

If hemodynamically stable :

↓

Contrast Imaging - conservative management
then surgery repair

Admit
Strict Bed
Records vitals
Analgesics
IV Fluid
Cross match

If hemodynamically unstable :

↓

Emergency

Mid-Line Laprotomy

Explore both kidneys

One shot IVU for other kidney

Renal injury repair

Nephrectomy (Partial + Complete)

Small tear (Sutured)

If Ureter Damage :

Endoscopy - JJ stenting

Primary repair of Partial Transaction of ureter

In case of loss of length :

Bladder mobilize upward, then anastomose

Boari flap use to anastomose \bar{e} ureter

In case of marked length loss :

Ureter implant in other side ureter

Autotransplantation of kidney in pelvis

Nephrectomy.

⇒ 25 yr. old Labourer in emergency with severe pain in
loin radiating to groin USG - Hydronephrosis
Hydroureter ✓✓

⇒ 28 yr. old patient severe pain radiating to groin H/O
of hematuria.

Diagnosis - Ureteric Stone

Investigation

R_x

Q - Five sites of obstruction :

- ① - Pelvicoureteric Junction
- ② - Crossing of iliac vessels
- ③ - Crossing of vas
- ④ - Bladder wall entrance
- ⑤ - Ureteric Opening.

Q - Clinical Features :

Flank pain

Colicky pain

Pain radiate down groin

Few drops of urine (Painful)

Also referred to tip of penis

Hematuria.

Investigations

USG → Stone - size
shape
Area.

• Dop
S

X-ray KUB → Site of obstruction.

Treatment :

① - < 5mm - will pass spontaneously
Surgery indication - Pain
Fever
Stone obstruction
Stone not passed spontaneously

② - < 10mm ESWL (Extracorporeal shock wave lithotripsy)
URS

> 10mm URS
ESWL

Ureteroscopic stone Rx

• Flexible ureteroscope :

↳ Reach to renal pelvis

↳ Break Renal Stones

↓

By using - Guide wire

- JJ stents

- Ureteral cathet

- Lithoclast

- Dormia Ba

- Push bang

• Open surgery:

Stone at upper-3rd - Removed by pyelolithotomy

Distal end - Gibson/Pfannenstiel

Middle 3rd - Removed by muscle cutting
Iliac fossa incision.

1- 32 yr. Female in OPD with c/o pain in Rt flank. USG, 9mm stone in upper calyx of Rt. kidney.

2- 37 yr. Female in OPD with complain of painful hematuria and Rt lumbar pain. Rt kidney is palpable. USG Rt sided hydronephrosis

- Diagnosis

- Investigations

- Treatment.

* Common age 20-50 yrs.

Types :

Calcium Oxalate → Spinach nuts, milk cheese.

struvite → (Mg, ammonium, phosphate) Staghorn.

Uric acid → Rich protein

cystine + xanthine stones

Others — Vit-A Deficiency

Dehydration

Hot climate

↑ Protein

Clinical Features :

Flank Pain

May radiate to groin

Vomiting

Hematuria

Uremia

Pyuria - lead to infection

U.O ↓

Burning micturation.

Investigations :

CBC - Leukocytosis $PLU \uparrow$

RFT - Urea creatinine

Urinalysis - \uparrow sugar
Pus cells, RBC
Protein

X-ray KUB - Hydronephrosis
Large Kidney.

USG - Stone

IVU - Use to enhance renal injury.

CT-scan KUB.

Treatment :

① $< 5\text{mm}$ Stone \rightarrow pass spontaneously

Analgesia

Antibiotic

Plenty of fluid.

② - $6-8\text{mm}$ pass \bar{e} medication

Cap. Tamsulosin (Alpha-blocker)

Analgesia

Plenty of fluids.

③ - Stone 2cm Kidney, $< 1\text{cm}$ ureteric

Extracorporeal shock wave lithotripsy.

(ESWL)

Non-surgical with shock wave \bar{e} sufficient energy.

④- > 2.5 cm Staghorn Calculi
Percutaneous Nephrolithotomy

⑤- > 2 cm Retrograde Intra-renal surgery

⑥- Very Large stones:

Open surgery - Pyelolithotomy

Extended Pyelolithotomy

Anatrophic nephrolithotomy

Partial Nephrectomy

Pyelolithotomy :-

Lateral Position

Morison Incision over 12th Rib (flank area)

Above renal angle ant superior iliac spine

skin, subcutaneous tissue

Latissimus Dorsi, serratus post

EO. Muscle

Transverse Abdomin

Lumbar fascia remove

Internal oblique incised

Fascia Gerata incised

Peri-nephrotic fat peeled off.

Kidney is rotated medially expose

pelvic area.

Longitudinal incision over pelvis

Stone removed

Pelvic-stitched

Wound closed.

Prevent intake of milk in Calcium stone

Hyperuricemia → Allopurinol
Avoid - meat
Fish

Cystinuria → Egg
meat fish } Not used.

60 yrs
pain i
side.

- Pain

- 60

pai

lin

m

60 yr-old man complains of hematuria associated with dragging pain in his left loin for 02 month. He has varicocele on left side.

Painless hematuria for one month, in left loin

60 yr-old man complains of hematuria associated with pain in the left loin. He passes clots that are warm like, enlarge left kidney and scrotal varicocele.

mass in the right iliac fossa for past four months
History of weight loss. He is markedly pale. had mass in Rt iliac fossa.

Dx - RCC

Inv -

R -

Clinical Features :

Hematuria

Dragging Flank Pain

Left sided varicocele or mass

Body pain

Lung Metastasis

HTN

Polycythemia

Risk-Factors :

Smoking

Tobacco

Obesity

Renal-Failure

Coffee

Tea

Polycystic Kidney Disease.

Vah-hippal's Lindane.

Spread :

Lungs

Bones

Para-aortic Lymph nodes

Investigations:

Urine examinations: Hematuria

USG + doppler: Image of IVC - Liver
Para-aortic-UN

CT-scan Abdomin: * Gold-standard

Involvement of Renal extension.

MRI: metastasis

X-ray chest:
Lungs

CT chest

Bone scan: Metastasis

TNm. staging :

T-staging -

T₀ - No tumor

T₁ - < 7cm

T_{1a} < 4cm

T_{1b} > 4cm

T₂ > 7cm at kidney

T_{2a} - > 7cm - 10cm <

T_{2b} - > 10cm

T₃ - Extended into vein tissue
But not in adrenal gland

T_{3a} - Adrenal gland invade

T_{3b} - Extended to vena cava below diaphragm

T_{3c} - Extended to vena cava above diaphragm.

T₄ - Tumor beyond adrenal gland.

N-staging :

N₀ - No

N₁ - Single

N₂ - More than one.

M-staging :

M₀ - No Distant

M₁ - Distant metastasis.

Rx :

Stage - I

T₁ No Mo

↓

✓ Radical Nephrectomy -

Mass excision of Kidney
Adrenal gland
Para-aortic L. node
Proximal Ureter

Approach : Transperitoneal

Incision : Flank

Ligation : Renal artery
Renal vein.

Bring : Kidney outside
Gerota fascia

Removal : Adrenal gland
Lymph nodes

✓ < 7cm → Laproscopic nephrectomy

✓ Bilateral → Partial Nephrectomy.
< 4cm

Stage - II

T₂ No Mo

↓

Radical nephrectomy.

Stage - III

T₃ No/N₁/Mo

↓

Radical Nephrectomy

Stage - IV

T₄ N₂ Mo/M₁

↓

Radical Nephrectomy
Chemotherapy

Radiation therapy → Palliative - For metastasis.

Immunotherapy → Interleukin 2
Interferon Alpha.

35 y/o male presented in OPD with right scrotal swelling for 06 months. H/O pain in right inguino scrotal area, fever, Burning Micturition. Symptom relieve by medication but ↑ swelling.

- Diagnosis
- Investigations
- Treatment.

Epididymo-orchitis :

Inflammation of epididymis + orchitis.

causes :

UTI reaches the epididymis via vas from urethra

Prostate

Instrumentation

Sexually Transmitted

Viral mumps → Atrophy.

Clinical-Feature :

Symptoms of UTI

Old-age

Pain in Groin

Dysuria

scrotal is painful + Tender.

swollen

Relieve by elevation of Testies

Scrotal skin also edematous.

Investigation :

CBC - Leukocytosis

Gram Staining

Urine-analysis - Pyuria / Bacteriuria.

CRP ↑

Rx :

Antibiotics - ciprofloxacin
doxycycline

Analgesics

of Abscess - Incision + Drainage.

Q- Boy 15 yr. age develop sudden pain in the left groin and lower Abdomen & nausea. Testies are 5cm and pain worsens on elevation of Testies.

Dx
Inv
Rx

Q- 4 yr. boy sudden pain in the right groin. Rt testies is sudden drawn-up and is tender.

Dx - Testicular Torsion.
Rx.

Define:

Twisting of spermatic cord results in strangulation of the blood-supply of Testies.

Teen-age 13-15 yrs.

cause:

- ① - Tunica vaginalis covers the whole Testies
- ② - ↑ length of mesocardium ligament.

Clinical Features:

Lifting a heavy weight - sudden severe pain in groin.

Nausea

Vomiting

Tender

Cord-Thick.

Testies seems high.

Aggravated by testies elevation.

Investigation :

Doppler USG

↓

* Absence of Blood supply → should not be more than 6 hrs. so of delay. Atrophy occur

Rx :

Counsel the patient

Consent

Orchidectomy

Exploration: Scrotal incision.

If :

Testies ↓ viable - cover with warm soaked gauze + 100% oxygen.

Pink - colour - It can be salvaged.

Blue - colour - Orchidectomy.

If Testies ↑ viability → Untwisted the testis and fixed with prol

Primary : In kidney and migrate to bladder

Secondary : In Bladder

Clinical-Features :

↑ Freq of Micturation

Pain referred to - Penis
- Labia

Hematuria

Retention of urine.

Investigations :

X-ray KUB

USG Abdomin

Cystoscopy.

Rx :

Cysto-lithotomy

Vesicolithotomy.

Vesico Lithotomy :

Open surgical method for large
hard-stone

Anesthesia

Pfannestiel incision 3cm Transverse
above pubic symphysis.

Skin + subcutaneous fat + Fascia

Rectus sheath

Retract Recti muscle

Peritoneum

Bladder with Bluish vein

Open-bladder with Diathermy.

Stone is extracted

Bladder is closed

Supra-Pubic cystectomy + Retropub_{cl}

Abdomin closed.

No. 01
35 yr. old. Truck driver, with 02 day dysuria and urethral discharge + Micturation

D/D
Urethritis
UTI
Ureteric stricture
Any Tumor.

Diagnosis :
Urethritis.

organism :
N. gonorrhoea
Chlamidia Trachomatis
Trachomonas vaginalis.

Clinical - Feature :

Dysuria
Urethral Discharge.

Investigations :

CBC - Leucocytosis
Gram staining of urine.
Culture examination.

Rx.

N. gonorrhoea - Ciprofloxacin / Penicillin.

Chlamydia - Doxycycline / Tetracycline.

Complication :

Prostatitis

Epididymo-orchitis

Urethral stricture

Septicemia

Proctitis

20 yr. Male

Dysuria - Thin stream of urine for 03 months
History of urethral Discharge.

Diagnosis - Urethral stricture.

Investigations

Rx

Investigations :-

① - Urethral Discharge - culture.

② - Physical examination

③ - CBC

④ - Urine analysis

⑤ - Urethral ultrasound

⑥ - Flexible / rigid urethroscopy.

Rx :-

- ② Optical internal urethrotomy
- ③ Urethroplasty.

① Dilatation :-

Gun-elastic bougie (GEB)

(S-D-N-C) self-dilatation by Nelaton catheter

(G-M-U-S) Graduated Metallic urethral sound

D/D →

Urethritis

UTI

Urethral stricture

Hypospadias

organism

↓

E. coli

Gonococci.

65 yr. Male presents with frequency
day and night.

On ~~ph~~ examination.

↓

Nodule in the left lobe of
prostate.

↓

Hard in consistency.

Diagnosis - BPH

Investigate -

History

Examinations

Blood Tests - Urea

creatinine

Electrolyte

Urine analysis

Ultrasound

PSA (Prostate specific
antigen)

Urodynamic Study.

cystourethroscopy.

Rx:

watchful waiting - 60% spontaneous Rx.

Medical Rx

↓

α -Blockers

5 α -reductase inhibitors.

Surgical: Prostatectomy

TURP

TVP

Bleeding Perforation

- Extra-peritoneal

- Intra-peritoneal

Coagulopathy

Bacteraemia

Septicemia.

Hypovolemia

Hyponatremia

Hypokalemia

Rce.