

## NON GLOMERULAR DISORDERS

\*\*\***INTERSTITIAL NEPHROPATHY:**

*They are group of inflammatory diseases affect renal tubules and the surrounding interstitium, associated with electrolyte abnormalities specially Hyperkalemia and metabolic acidosis, may be with renal failure, proteinuria rarely > 1gm/day while haematuria and pyuria are common.*

**\*\* Acute Interstitial Nephritis:**

- *Causes:*

1. *Drug related*: - Antibiotic; Penicillins ( ( Methacillin ) )  
- NSAID
2. *Immune* : Transplant rejection
3. *Infections* : Acute bacterial pyelonephritis

- *Clinical features:*

- *Development of acute renal insufficiency is common.*
- *May develop fever, skin rash, arthralgia and peripheral Eosinophilia with or without eosinophiluria*
- *Hypertension and oedema are uncommon.*

- *Diagnosis:*

1. GUE shows haematuria, sterile pyuria, WBC cast & eosinophiluria.
2. Impaired renal function (( high blood urea and s. creatinine ))
3. Renal biopsy shows tubular atrophy and interstitial infiltration by inflammatory cells

- *Treatment:*

1. *Withdrawal the offending drug in drug induced*
2. *Short course of prednisolone 1mg/kg/day for 1-2 weeks may accelerate recovery.*
3. *Dialysis some time is necessary.*
4. *Treatment of the underlying cause if possible*

**\*\* Chronic Interstitial Nephritis:**

*It is characterized by slowly progressive renal insufficiency, non nephritic range proteinuria and functional tubular defect with interstitial fibrosis with atrophy and loss of renal tubules.*

- *Causes:*

1. *Vesicouretral reflux*
2. *Drugs: Analgesic nephropathy*
3. *Sickle cell nephropathy*
4. *Toxins & heavy metals eg. Lead poisoning*
5. *Metabolic disorders eg. Hypokalemia, hyperuricemia*
6. *Hereditary diseases eg. Polycystic kidney disease*
7. *Malignant diseases eg. Multiple myeloma*

- *Clinical features:*

1. Usually adult with CRF, hypertension and small size kidneys.

2. *Electrolyte disturbances ((Hyperkalemia and acidosis disproportionately more severe than the degree of azotemia.*
3. *No evidence of active renal inflammation.*
4. *Urinalysis are nonspecific with no cellular casts.*
5. *Features related to the underlying cause.*

- **Treatment:**

1. *Symptomatic*
2. *Correction of electrolyte disturbances*
3. *Dialysis may be indicated*
4. *Treatment of the underlying cause*

### \*\*\* URINARY TRACT INFECTION (( UTI ))

- **Risk factors:**

1. *Incomplete bladder emptying eg. Bladder outlet obstruction*
2. *Foreign bodies eg. Urethral catheter.*
3. *Loss of host defenses eg. DM*

- **Aetiology:**

*E.coli, Proteus, Klebsiella, Psudomonus, Streptococci, Staphylococcus epideomidis.*

- **Spectrums of presentations of UTI :**

1. **Asymptomatic bacteriuria;**

- *5% of pregnant women have asymptomatic bacteruria*
- *It is increasingly common in those aged over 65 years.*
- *Treatment is indicated in infants and pregnant women but not in general population.*

2. **Symptomatic acute urethritis & cystitis:**

- *Patients presented with frequency, dysuria, urgency, suprapubic pain, cloudy urine and may have unpleasant odor,*
- *Microscopical or visible haematuria*
- *Slight or absent systemic symptoms.*

3. **Acute pyelonephritis:**

- *Classic triad of; loin pain, fever and tenderness over the kidneys*
- *30% may have dysuria*
- *Fever may be associated with rigors vomiting & hypotension*

4. **Acute prostatitis:**

- *Dysuria, frequency, perineal or groin pain, difficulty in passing urine, enlarged tender prostate.*

5. **Septicaemia:**

- **Investigations:**

1. *GUE*
2. *urine culture*
3. *renal sonography*
4. *blood culture*
5. *IVU*

- **Treatment:**

1. *Cystitis: Trimethoprim 200 mg/day. For 3 days. OR*  
*Nitrofuradantin 50 mg/6hr. For 3 days. OR*

Norfloxacin 400 mg/12hr. For 3 days.

2. pyelonephritis:

- Same treatment of cystitis but for 7 – 14 days.
- Gentamycin or cephalosporin may be used.

3. Prostatitis: - Trimethoprim, ciprofloxacin or norfloxacin for 4 – 6 weeks

4. Fluid intake of at least 2 Litres / day is recommended.

5. Urinary alkalinizing agents may help symptomatically.

6. Personal hygiene and emptying of the bladder regularly.

\*\*\* CYSTIC KIDNEY DISEASES:

\*\* POLYCYSTIC KIDNEY DISEASE:

It is an autosomal dominant inherited disease

- Clinical Features:

- Usually asymptomatic until adult life.
- May present with vague discomfort in loin or abdomen or with acute renal colic due to hemorrhage into a cyst.
- Hypertension is common.
- May present with recurrent UTI.
- Usually haematuria with little or no proteinuria
- Chronic progressive gradual reduction in renal function
- CRF

- Associated conditions:

Hepatic cyst, Berry aneurysms of the cerebral vessels, AR, MR, colonic diverticuli and abdominal hernias

- Investigations:

1. family history
2. Clinical features
3. Abdominal ultrasound

- Treatment:

- PKD is not a premalignant disorder.
- Supportive treatment.
- Treatment of hypertension.
- Dialysis.
- Renal transplantation.

\*\*\* TUMOURS OF THE KIDNEY & URINARY TRACT:

\*\* Renal Adenocarcinoma:

- The most common malignant tumour of the kidney in adult.
- Typical presentation: Haematuria, loin pain and renal mass.
- Systemic effects include: Fever, raised ESR, polycythaemia, abnormalities in plasma proteins and liver function test.

- **Diagnosis:** Abdominal U/S , Contrast enhanced abdominal CT scan.
- **Treatment:**
  - Radical nephrectomy including the perirenal facial envelope and the ipsilateral para-aortic lymph nodes.
  - It is resistant to radiotherapy and chemotherapy but some benefit from immunotherapy using interferon and IL-2
  - Even when metastases are present, nephrectomy should always be considered.

**\*\* Tumours of renal pelvis, ureters and bladder:**

- Transitional cell carcinoma associated with exposure to chemicals and dye industries.
- Squamous cell carcinoma usually following chronic inflammation or irritation due to stone or Schistosomiasis.
- 80% presented with haematuria which is usually visible and painless.
- **Investigations:**
  1. IVU
  2. U/S
  3. cystoscopy & biopsy
- **Treatment:**
  1. Transurethral resection of the tumor
  2. Intravesical chemotherapy
  3. Radical cystectomy & urinary diversion.