SUMMARY

- Renal failure is a biochemical upset resulting from failure of the kidneys to maintain and regulate homestasis of the body fluids and electrolytes.
- This Essay is made to explain types, aetiology, clinical picture and treatment of renal failue.
- Before procedding to this explanation, we have to describe the anatomy of the kidney and physiology of the kidney with its role in regulating the fluid and electrolytes balance and pH of the blood.
- There are two types of renal failure I: Acute renal failure, II: chronic renal failure.

I: Acute renal failure

- The acute renal failure can be dividen into three major categories:

1) Acute renal failure due to pre-renal cause, which occurs as a result of impairment of renal blood flow due to shock, haemorrnage or dehydration.

2) Acute renal failure due to renal cause in which there is a parenchymal damage of the kidney and the most common condition of this category is acute tubular necrosis which can be the result of renal ischaema or nephrotoxia and its clinical course is characterized by:

- Oliguric phase:
  - Characterized by oliguria or anuria with rise

of blood urea and serum creatinine and other metobolic disorders.

- Diuretic phase:
  - Which starts by the onset of diueresis and general condition of the patient begins to imporve gradually.

3) Acute renal failure due to post renal cause, where there is obstruction of urinary tract.
   - It is very important, when confronted with a case of acute renal failure to detect the cause as soon as possible, the post-renal cause can be suspected from history of calculous disease or history of pelvic operation and it is usually characterized by anuria, the the confirmation is made by plain x-ray, intravenous pyelography and ultra sonography.
   - The differention between the pre-renal and renal causes is done by certain biochemical tests.
   - The treatment of acute renal failure differs according to its cause:
   - In acute renal failure due to pre-renal cause, after restoration of blood volume and preasure, a trial is made with diuretics and dopamine Hydrochloride may by of value.
   - In aute tubular necrosis, the treatment of oliguric phase consists of:
     - Maintainance of fluid and electrolytes balance.
     - control of intake of proteins, corbolhdrates and fat.

- control of infection, nausea and vomiting.
- The most effective theropy of acute renal failure is the dialysis as it tides the patient over the critical period.

Once the diuretic phase starts, it is important to observe and correct any water depletion orelectrolytes loss which is very liable to occur.

- In post - renal cause, the treatment is mainly directed to relieve the obstruction.

II: Chronic renal failure

- In this type of renal failure we try to give an account on the following:

a. The aetiology of the chronic renal failure representing in:

1. Destructive causes as chronic glomeulone phritis, chronic pyelonephritis and tuberculosis of the kidney.
2. Obstructive causes including.
   a) causes of obstruction at or below the bladder outlet.
   b) Neurogenic bladder.
3. Vasculor causes as:
   renal vein thrombosis - Hypertension.
4. Congenital causes as:
   adult poly cystic disease of the kidney renal dysplasia.

5. Metabolic causes as hypercalcaemia, Hyperoxaluria.

b. The pathophysiology of the different Homoestatic disturbances due to the chronic renal failure and we discuss the abnormalities of the following:

1. Body water 2. Body sodium and potassium
3. Blood pressure 4. Acidosis 5. Anaemia
6. Renal osteodystrophy 7. Hyperlipidaemia
8. Glucose homestasis 9. Gonadal function
10. Pepticuler -acid secretion.
11. Neuropathy 12. Immunity

c. Clinical picture of the chronic renal failure including:

1. The clinical picture of the aetiology of the chronic renal failure.
2. The clinicol picture of the chronic renal failure itself.
3. The clinical picture of the complications of chronic renal failure.

d. Investigation of case of chronic renal failure including:

1. Urine analysis and culture.
2. Analysis of blood chemical constitutes.
3. Renal function tests as creativine cleorance.
4. Radio graphy.
5. Radio isotopic kidney studies.
6. Ultrasonic examination of the urinory tract.
7. Computed tomography.

e. Management of chronic renal failure:

1. In the early stages of chronic renal failure, the conservitate treatment is used which includes the management of the following approaches:
   - Hypertension - fluid, sodium and potassium balance - Dietary approach.
   - Anaemia - treatment of lifection in these patients.
2. In the end stage of chronic renal failure, the management of this stage by:
   a) Dialysis:
      1) peritoneal dialysis.
      2) Haemodialysis.
   b) Renal transplantation.