

## **The Kidneys Summery**

- The kidney are vital organs for the excretion of various waste products as well as for acid-base balance fluid volume control, hormone production and metabolic function, such as calcium homeostasis.
- Plasma creatinine determination is a useful test of renal function, but Plasma creatinine concentration can still remain within the reference range in the presence of a significant decline in renal function.
- Acute Kidney injury (AKI) can be due to pre-renal, renal or post-renal causes. Raised plasma urea and creatinine concentration occur along with fluid retention, anuria or oliguria, hyperkalemia, hypophosphatemia and metabolic acidosis
- End-stage chronic kidney disease (CKD5) implies slow, irreversible renal disease. Raised plasma urea and creatinine concentration occur initially and, as renal reserve decline, there is further hyperkalemia, hypophosphatemia, metabolic acidosis, hypocalcaemia and anaemia. This may necessitate renal support such as dialysis.
- Renal calculi can be the result of urinary stasis or infection associated with urinary supersaturation. The commonest calculi can calcium containing.
- Nephrotic syndrome is defined as gross proteinuria associated with oedema and hypoproteinaemia. This is a disorder of the renal glomerular membrane.
- Renal tubular disease can result in Fanconi's syndrome associated with acid-base and potassium disturbance, glycosuria, amino aciduria, hypouricaemia and hypophosphataemia.
- Renal replacement therapy, such as diaslysis, may be indicated in AKI and CKD5.