

What tells Kidney Function Test (KFT)

Sodium:-

↑: water loss (profuse sweating, severe diarrhea or vomiting, polyuria), hypergluco- or mineralo-corticoidism, and inadequate water intake.

↓: intake of free water or hypotonic solutions. Dilutional hyponatremia (cardiac failure, liver failure, nephrotic syndrome, malnutrition, renal tubular abnormalities).

Potassium:-

↑: excess destruction of cells, redistribution of K^+ from the intra- to the extracellular compartment (massive haemolysis, crush injuries, hyperkinetic activity, and malignant hyperpyrexia. Decreased renal K^+ excretion (acute renal failure, some cases of chronic renal failure, Addison's disease, and other sodium-depleted states). Haemolysis and marked thrombocytosis may cause false elevations.

↓: excess K^+ loss (vomiting, diarrhea, villous adenoma of the colorectum, renal tubular defects, hypercorticoidism, etc), Redistribution hypokalemia (glucose/insulin therapy, alkalosis and periodic paralysis).

Chloride:-

↑: dehydration, renal tubular acidosis, acute renal failure, diabetes insipidus, prolonged diarrhoea, salicylate toxicity, respiratory alkalosis, hypothalamic lesions, and adrenocortical hyperfunction.

↓: excessive sweating, prolonged vomiting, salt-losing nephropathy, adrenocortical deficiency, acute intermittent porphyria, various acid base disturbances, expansion of extracellular fluid volume etc.

Urea nitrogen (BUN):-

↑: acute & chronic intrinsic renal disease, post renal obstruction of urine, high protein intake.

↓: high carbohydrate/low protein diets, increased anabolic demand (late pregnancy, infancy, acromegaly), malabsorption and severe liver damage.

Creatinine:-

↑: any renal functional impairment (intrinsic renal lesions, decreased perfusion of the kidney, or obstruction of the lower urinary tract), acromegaly and hyperthyroidism.

↓: pregnancy, muscle wasting.

Uric acid:-

↑: idiopathically, renal failure, disseminated neoplasms, pregnancy toxemia, psoriasis, liver disease, sarcoidosis etc.

↓: not be of clinical significance. It has been reported in Wilson's disease, Fanconi's syndrome, xanthinuria, and (paradoxically) in some neoplasms.

Inorganic phosphorus:-

↑: myeloma, Paget's disease of bone, osseous metastasis, Addison's disease, leukaemia, sarcoidosis, vit- D excess, healing fractures, renal failure, diabetic ketoacidosis, hypoparathyroidism, acromegaly, and malignant hyperpyrexia.

↓: sepsis, hypokalemia, malabsorption syndromes, hyperinsulinism, hyperparathyroidism, and as result of drugs.

Calcium:-

↑: malignant neoplasms (with or without bone involvement), vit-D intoxication, primary and tertiary hyperparathyroidism, sarcoidosis, Paget's disease of bone (with immobilization), thyrotoxicosis, acromegaly, diuretic phase of renal acute tubular necrosis.

For given total calcium level, acidosis increases the physiologically active ionized form of calcium. True decrease in the physiologically active ionized form of Ca^{++} occurs in many situations (hypoparathyroidism, vit-D deficiency, chronic renal failure, Mg deficiency, prolonged anticonvulsant therapy, acute pancreatitis, massive transfusion, many drugs etc).