) The Fifteenth Experiment :

BLOOD UREA NITROGEN (BUN, UREA NITROGEN)

Urea forms in the liver and, along with CO_2, constitutes the final product of protein metabolism. The amount of excreted urea varies directly with dietary protein intake.
Increased excretion in:
1. fever
2. diabetes
3. increased adrenal gland activity.

- The test for BUN, which measures the nitrogen portion of urea, is used as an index of glomerular function in the production and excretion of urea.
- Rapid protein catabolism and impairment of kidney function will result in an elevated BUN level.

- In chronic renal disease, the BUN level correlates better with symptoms of uremia than does the serum creatinine.

Reference Values

Adults: 6-20 mg/dL or 2.1-7.1 mmol/L
Elderly patients (>60 years): 8-23 mg/dL or 2.9-8.2 mmol/L
Children: 5-18 mg/dL or 1.8-6.4 mmol/L

Clinical significance:

a) *Increased BUN levels (azotemia) occur in the following conditions:*

1. Congestive heart failure
2. Salt and water depletion
3. Shock , Stress.
4. Chronic renal disease
5. Urinary tract obstruction
6. Diabetes mellitus with ketoacidosis
7. Anabolic steroid use.

b) Decreased BUN levels are associated with the following conditions:

1. Liver failure
2. Malnutrition, low-protein diets
3. Impaired absorption (celiac disease)
4. Nephrotic syndrome.

principle and procedure in kit

An invention is a responsibility of the individual, society cannot invent, and inventor.