Blood urea nitrogen

Is a medical test that measures the amount of urea nitrogen found in the blood. The liver produces urea in the urea cycle as a waste product of the digestion of protein.

Blood urea nitrogen (BUN) is a common blood test that measures the level of urea nitrogen in the bloodstream. It is primarily used as an indicator of kidney function and can provide insights into the body's nitrogen balance and overall metabolism. Here are some key points about blood urea nitrogen:

Urea and Nitrogen: Urea is a waste product produced in the liver as a result of protein metabolism. It is then transported to the kidneys for excretion in the urine. Urea contains nitrogen, and the blood urea nitrogen test measures the concentration of nitrogen in the form of urea in the blood.

Kidney Function: The kidneys play a vital role in filtering waste products, including urea, from the blood and maintaining a balance of nitrogenous waste in the body. An elevated BUN level can indicate impaired kidney function or reduced glomerular filtration rate (GFR).

Indication of Kidney Function: BUN is often used in combination with creatinine levels to assess kidney function. While creatinine is considered a more specific marker of kidney function, BUN can provide additional information about the balance between urea production and excretion.

Factors Affecting BUN Levels: Several factors can influence BUN levels. Dehydration, high protein intake, gastrointestinal bleeding, certain medications (such as corticosteroids or diuretics), and certain medical conditions (such as congestive heart failure or liver disease) can cause BUN levels to rise. On the other hand, low protein intake, liver failure, or conditions that affect urea production can lead to decreased BUN levels.

Reference Range: The reference range for BUN can vary depending on the laboratory, but it typically falls between 7 and 20 milligrams per deciliter (mg/dL) or 2.5 to 7.1 millimoles per liter (mmol/L).

Interpretation: BUN levels should be interpreted in conjunction with other clinical information, including creatinine levels, medical history, and physical examination findings. A high BUN level may suggest kidney dysfunction, dehydration, or other underlying conditions, while a low BUN level may indicate liver disease or malnutrition.

It's important to note that a single BUN measurement alone may not provide a complete picture of kidney function, and further evaluation and additional tests may be required for a comprehensive assessment.

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