



Title of the lecture: Determination of sodium in serum



Determination of sodium in serum

Sodium is particularly important for nerve and muscle function. Your body keeps sodium in balance through a variety of mechanisms. Sodium gets into your blood through food and drink. It leaves the blood through urine, stool, and sweat. Having the right amount of sodium is important for your health. Too much sodium can raise your blood pressure.

Sodium is a mineral that your body must have in order to function properly. The primary source of dietary sodium is sodium chloride, or salt. Excessive sodium can cause hypertension, which in turn can lead to other health problems.

Although sodium is often maligned as a cause of high blood pressure, it also plays several essential roles in the body. Sodium helps control blood pressure and regulates the function of muscles and nerves, which is why sodium concentrations are carefully controlled by the body.

However, most people consume far more sodium than their bodies need.

Blood Pressure Control

Sodium is dissolved in the blood and plays a key role in maintaining blood pressure. Sodium attracts and holds water, so the sodium in the blood helps maintain the liquid portion of the blood. On the other hand, if you consume too much sodium, your body may hold onto extra water, increasing the volume of your blood. Since your blood vessels cannot expand to accommodate this increased blood volume, your blood pressure will rise. High blood pressure is a risk factor for many diseases, including heart problems and stroke.

Clinical Significance

Hypernatremia: Higher than normal sodium level It may be due to:

- 1-Increased fluid loss due to excessive sweating, diarrhea, burns, or use of diuretics.
- 2-Adrenal gland problems
- 3-Diabetes insipidus (type of diabetes in which kidneys are not able to conserve water).
- 4-Too much salt or sodium bicarbonate in the diet.

Hyponatremia: Lower than normal sodium level it may be due to:

- 1-Use of medicines such as diuretics (water pills), morphine
- 2-Increased fluid loss from body, vomiting, or diarrhea
- 3-Increase in total body water seen in those with heart failure, certain kidney diseases, or cirrhosis of the liver
- 3-Adrenal glands not making enough of their hormones (Addison disease)
- 4-Buildup in urine of waste product from fat breakdown (ketonuria)