Title of the lecture: Determination of albumin

What is albumin

Blood serum contains large amounts of protein. Albumin is the primary protein in the blood, and a large group of other proteins are globulins. Albumin is produced in the liver, mainly, at about 12g / day, which accounts for 25% of total protein production in the liver. The disintegration of the large portion of the albumin is also done in the liver, too, after a life span of 17-20 days. Most of the albumin (about 60%) is present in the body fluids outside the blood vessels, while the remaining 40% is present in the serum.

The concentration (level) of serum albumin is 3.5 - 5.5 g / dl

The albumin has two basic functions in the human body

1- A key factor in preventing the release of blood fluids from the blood vessels to the tissues of the body (creates a positive pressure - Oncotic pressure). Therefore, the primary expression of albumin deficiency is the accumulation of fluid in the tissues and the appearance of Edema: in the feet (especially around the ankles), in the lungs and in the abdominal cavity (Ascites

2- The function of the second important albumin is to bind vital compounds in the blood stream and transfer them to the body organs. Compounds such as: hormones, fatty acids, trace elements, bilirubin.

Hypoalbuminemia is the condition in which the albumin levels in the blood are lower than normal levels (below 3.5 g / dl). This condition usually occurs after a decrease in the production of albumin in the liver, which may result from liver cell injury and damage to albumin production capacity, or may result from a decrease in the consumption of amino acids, which form the basic units in proteins, due to a diet. Chronic liver disease, such as chronic viral hepatitis and other liver cirrhosis, is the most common cause of low levels of albumin in the blood following the death of hepatic cells and serious damage to the liver's ability to produce

Symptoms associated with liver disease include:

1-jaundice, which is yellow skin and eyes

2- Tiredness (fatigue)

3- weight loss

4-swelling around your eyes, stomach, or legs

5- Fever

6- Vomiting and diarrhea

**Low albumin levels can also be seen in inflammation, shock, and malnutrition. They may be seen with conditions in which the body does not properly absorb and digest protein

A low albumin may also be seen in several other conditions, :such as

1-Infection

2-Burns

3-Surgery

4-Chronic illness

5-Cancer

6-Diabetes

7-Hypothyroidism

8-liver disease

9-inflammation

10-shock

11-malnutrition

12-celiac disease