

## What tells Liver Function Test

### 1) Total bilirubin (TBIL):-

Increased total bilirubin causes jaundice, and can signal a number of problems:

↑**Indirect bilirubin:** *Prehepatic:* e.g. haemolytic anaemia and internal haemorrhage.

*Hepatic:* e.g. cirrhosis of liver and viral hepatitis.

↑**Direct bilirubin:** - *Posthepatic* e.g. obstruction of the bile ducts.

### 2) SGPT / ALT:-

ALT rises dramatically in acute liver damage, such as viral hepatitis or the use of certain medications. It is found in cells of the heart, kidneys, muscles and pancreas in small amounts, but in much greater concentration in the liver.

### 3) SGOT/ AST:-

AST is found in many tissues throughout the body, including liver, heart, muscles, kidney, and brain. If any of these organs or tissue is affected, it released into the bloodstream. It indicates complete cellular disruption. Elevated AST levels are not specific for liver damage, and AST has also been used as a cardiac marker.

### 4) Alkaline phosphatase (ALP):-

ALP is an enzyme in the cells lining the biliary ducts of the liver. Its levels in plasma rises with bile duct obstruction, intrahepatic cholestasis or infiltrative diseases of the liver. ALP is also present in bone and placental tissue.

### 5) Total protein:-

*Increased:-*Chronic infection (including tuberculosis), Adrenal cortical hypofunction, Liver dysfunction, Vascular Disease (Rheumatoid Arthritis, Systemic Lupus, Scleroderma), Hypersensitivity, Sarcoidosis, Dehydration, Respiratory distress, Haemolysis, Leukaemia.

*Decreased:-*Malnutrition and malabsorption, Liver disease, Diarrhea , Severe burns , Hormone Imbalances that favour breakdown of tissue, Loss through the urine in severe kidney disease, Low albumin, Low globulins, Pregnancy.

### 6) Albumin:-

*Increased:* - Dehydration, Congestive heart failure, Poor protein utilization, Glucocorticoids excess, Congenital.

*Decreased:-* Hypothyroidism, Chronic debilitating diseases, Malnutrition, Dilution by excess water, Nephrotic Syndrome, Protein losing-enteropathy, Skin losses (burns, exfoliative dermatitis), Liver dysfunction, Insufficient anabolic hormones such as GH, testosterone, etc.

### 7) Globulin:-

*Increased:* - *Hepatozoan canis infection*, chronic infections, Liver disease (biliary cirrhosis, obstructive jaundice), carcinoid syndrome, Rheumatoid arthritis, Ulcerative colitis, Multiple myelomas, leukaemia, autoimmunity, Kidney dysfunction.

*Decreased:* - nephrosis, Liver dysfunction, hypogammaglobulinemia /Agammaglobulinemia, Acute haemolytic anaemia, Emphysema.

### 8) A:G ratio:-

*Increased:* - hypothyroidism, High protein & high carbohydrate diet with poor nitrogen retention, low globulin, and excess glucocorticoids.

*Decreased:* - liver dysfunction.

*A variety of medications can cause abnormal liver enzymes levels. With drug-induced liver enzyme abnormalities, the enzymes usually normalize weeks to months after stopping the medications*