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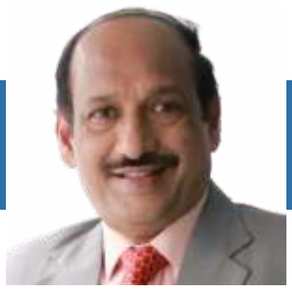
Guest Editorial



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LIVER

The liver is the largest solid organ and the largest gland in the human body. It carries out over 500 essential tasks.

Classed as part of the digestive system, the roles of the liver include detoxification, protein synthesis, and the production of chemicals that help digest food.

Fast facts on the liver

- Largest gland.
- carries out more than 500 roles in the human body.
- only organ that can regenerate.
- largest solid organ
- Alcohol abuse is one of the major causes of liver problems in the industrialized world.

Structure

Weight: around 1.5kg

Colour: reddish-brown

Texture : Rubbery

Location: It is situated above and to the left of the stomach and below the lungs.

The skin is the only organ heavier and larger than the liver.

Shape : roughly triangular ,consists of two lobes: a larger right lobe and a smaller left lobe. The lobes are separated by the falciform ligament, a band of tissue that keeps it anchored to the diaphragm.

A layer of fibrous tissue called Glisson's capsule covers the outside of the liver. This capsule is further covered by the peritoneum, a membrane that forms the lining of the abdominal cavity.

This helps hold the liver in place and protects it from physical damage.

Blood Vessels

Unlike most organs, the liver has two major sources of blood. The portal vein brings in nutrient-rich blood from the digestive system, and the hepatic artery carries oxygenated blood from the heart.

The blood vessels divide into small capillaries, with each ending in a lobule. Lobules are the functional units of the liver and consist of millions of cells called hepatocytes.

Blood is removed from the liver through three hepatic veins.

Functions

- Bile production
- Absorbing and metabolizing bilirubin
- Supporting blood clots
- Fat metabolization
- Metabolizing carbohydrates
- Vitamin and mineral storage
- Helps metabolize proteins
- Filters the blood
- Immunological function
- Production of albumin
- Synthesis of angiotensinogen: This hormone raises blood pressure by narrowing the blood vessels when alerted by production of an enzyme called renin in the kidneys.

Regeneration

It can regenerate completely, as long as a minimum of 25 percent of the tissue remains. One of the most impressive aspects of this feat is that the liver can regrow to its previous size and ability

This regeneration is helped by a number of compounds, including growth factors and cytokines. Some of the most important compounds in the process appear to be:

- hepatocyte growth factor
- insulin
- transforming growth factor-alpha
- epidermal growth factor
- interleukin-6
- norepinephrine

Liver Diseases

- Fascioliasis
- Cirrhosis
- Hepatitis
- Alcoholic liver disease
- Primary sclerosing cholangitis (PSC)
- Fatty liver disease
- Gilbert's syndrome
- Liver cancer

Health

- Diet: As the liver is responsible for digesting fats, consuming too many can overwork the organ and disturb it from other tasks. Obesity is also linked to fatty liver disease.
- Moderate alcohol intake
- Avoiding illicit substances
- Caution when mixing medications
- Protection against airborne chemicals
- Travel and vaccinations
- Safe sex
- Avoid exposure to blood and germs

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