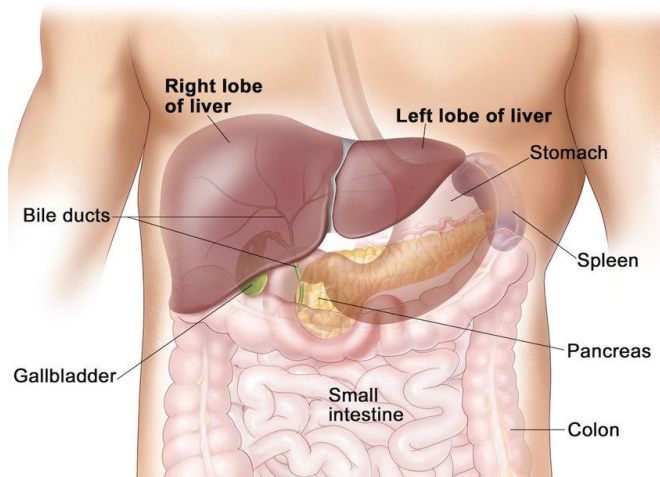


Spleen



Introduction to the Spleen

The spleen is an essential organ in the human body, often overlooked but vital for several functions. It's located on the left side of the abdomen, just below the ribcage. In this overview, we'll delve into how the spleen works and the path it takes through the body.

Structure of the Spleen

- **Size and Shape:** The spleen is roughly the size of a clenched fist and has a bean-like shape.
- **Composition:** It's made up of two types of tissue - red pulp and white pulp.
- **Blood Supply:** The spleen receives blood from the splenic artery and releases it via the splenic vein.

Functions of the Spleen

Filtration of Blood:

- **Red Blood Cells:** The spleen acts as a filter, removing old or damaged red blood cells from circulation.
- **Platelets:** It also stores platelets, which are crucial for blood clotting.

Immune Function:

- **White Pulp:** The white pulp contains immune cells (lymphocytes) that help fight infections.
- **Antibody Production:** It plays a role in antibody production, aiding in the body's defense against pathogens.

Spleen's Path Through the Body

Blood Supply:

- The spleen's journey begins with the splenic artery, which branches off from the celiac trunk, a major artery in the abdomen.
- The splenic artery delivers oxygenated blood to the spleen, allowing it to carry out its functions.

Filtration of Blood:

- Once inside the spleen, blood enters through small arteries and moves through the splenic sinuses.
- In the red pulp, old or damaged red blood cells are identified and removed from circulation.
- Platelets are stored within the spleen, ready to be released when needed.

Immune Function:

- As blood flows through the spleen, it also passes through the white pulp.
- The white pulp is a hub for immune activity. Lymphocytes within it monitor the blood for pathogens.
- If any foreign invaders are detected, an immune response is initiated, helping to defend the body.

Return to Circulation:

- Once the blood has been filtered and any immune responses triggered, it leaves the spleen through the splenic vein.
- The splenic vein then joins the portal vein, which carries the cleaned and filtered blood to the liver for further processing.

Conclusion

In summary, the spleen is an often-overlooked but crucial organ in the human body. Its functions include filtering blood, removing old red blood cells, storing platelets, and playing a vital role in the immune system. The spleen's path through the body involves receiving blood from the splenic artery, filtration in the red pulp, immune activity in the white pulp, and returning cleaned blood to circulation via the splenic vein. Understanding the spleen's functions and its journey through the body helps appreciate its significance in maintaining overall health.

Overview of Spleen Disorders

The spleen is a vital organ in the body, responsible for various functions, but it can be susceptible to disorders that impact its health and function. In this overview, we'll explore common spleen disorders, how they work, and their effects on the body.

1.Splenomegaly

Definition: Splenomegaly is the medical term for an enlarged spleen.

Causes:

- **Infections:** Conditions like mononucleosis and malaria can cause spleen enlargement.
- **Liver Disease:** Liver diseases, such as cirrhosis, can lead to increased pressure in the spleen, causing it to expand.
- **Blood Disorders:** Conditions like leukaemia and sickle cell anaemia may result in splenomegaly.

Effects on the Body:

- Enlarged spleen can be painful and cause discomfort in the left upper abdomen.
- It may filter blood cells more aggressively, potentially reducing the number of healthy red blood cells and platelets.
- In severe cases, a ruptured spleen can occur, which is a medical emergency.

2.Hyposplenism

Definition: Hyposplenism refers to reduced spleen function.

Causes:

- **Certain Medical Treatments:** Radiation therapy, chemotherapy, or spleen removal surgery can impair spleen function.
- **Inherited Conditions:** Some genetic disorders can result in poorly functioning spleens.

Effects on the Body:

- Reduced ability to filter and remove old or damaged red blood cells and platelets from the bloodstream.
- Weakened immune response, making individuals more susceptible to infections, particularly bacterial infections.

3.Spleen Infarction

Definition: Spleen infarction occurs when blood flow to a portion of the spleen is blocked, leading to tissue death.

Causes:

- **Blood Clots:** Blood clots or emboli can obstruct blood vessels in the spleen.
- **Sickle Cell Disease:** Individuals with sickle cell disease are at higher risk due to the abnormal shape of their red blood cells.

Effects on the Body:

- Severe abdominal pain on the left side. Damage to the spleen tissue, which can result in permanent loss of function.

4.Autoimmune Hemolytic Anaemia

Definition: Autoimmune hemolytic anaemia is a condition where the immune system mistakenly attacks and destroys red blood cells.

Causes:

- **Autoimmune Disorder:** The immune system malfunctions and targets healthy red blood cells.
- **Associated with Other Diseases:** It can occur in conjunction with conditions like lupus.

Effects on the Body:

- The spleen becomes overactive, as it tries to remove the damaged red blood cells.
- Anaemia develops, leading to fatigue, paleness, and shortness of breath.

Understanding these disorders and their effects is essential for early diagnosis and appropriate medical intervention to manage or treat them effectively. If you experience symptoms related to spleen disorders, consult a healthcare professional for a proper evaluation and guidance.