

(View 33)

Tonsils

Are paired, ovoid structures that consist of dense accumulations of lymphatic tissue located in the mucous membrane of the junction of oropharynx and oral cavity.

Lymph Nodes

Lymph nodes are small, bean shaped, encapsulated lymphatic organs. They are widely distributed throughout the body. Two types of lymphatic vessels serve the nodes: (View 34)

- **Afferent lymphatic vessels** convey lymph toward the node and enter at various points on the convex surface of the capsule.
- **Efferent lymphatic vessels** convey lymph away from the node and leave at the hilum, a depression on the concave surface of the node that also serves for the entry and exit of blood vessels and nerves.

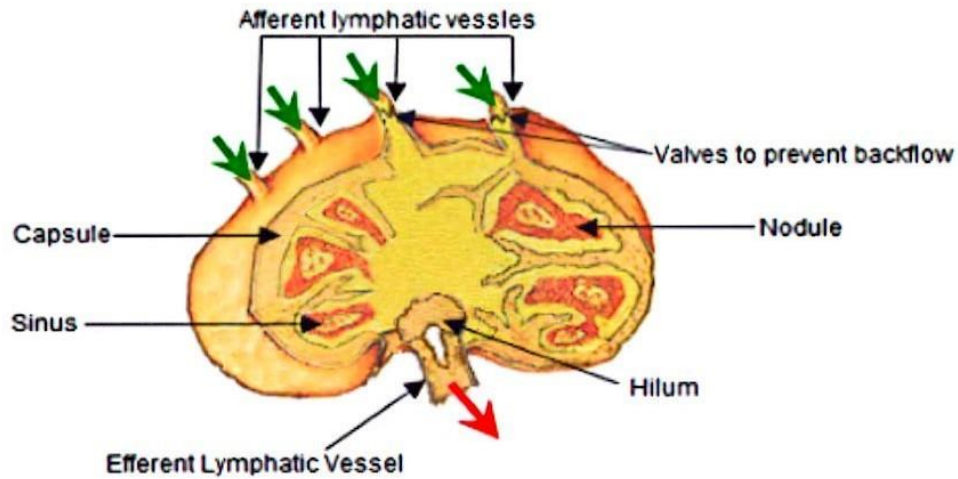
The supporting elements of the lymph node are:

1-Capsule:- composed of dense connective tissue that surrounds the node

2-Trabeculae:- also composed of dense connective tissue which extends from the capsule into the substance of the node, forming a gross framework

3-Reticular tissue:- composed of reticular cells and reticular fibers that form a fine supporting network that extends throughout the remainder of the organ.

Lymph Node Structure



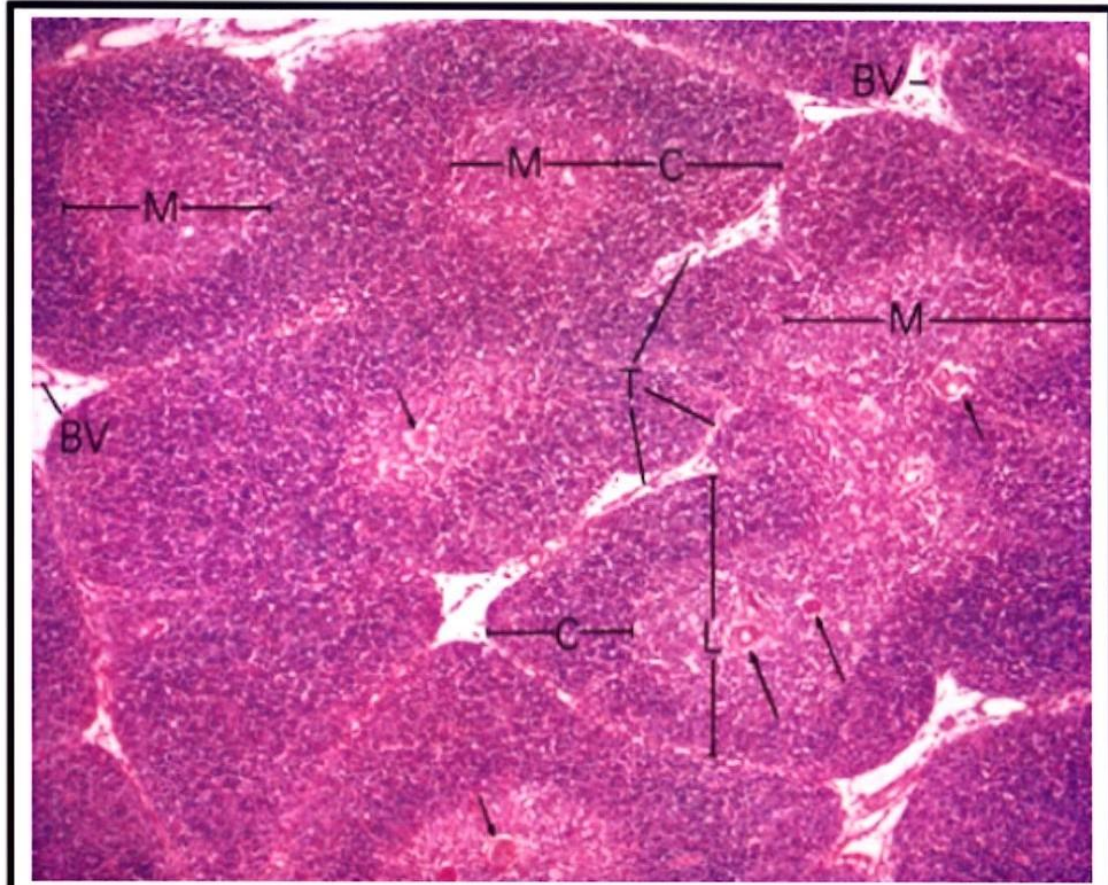
(View 34)

Thymus

The thymus is a bilobed organ located in the superior mediastinum anterior to the heart and great vessels. It consists of :-

- 1-Cortex , the outer portion of the parenchyma that contains a high concentration of lymphocytes.
- 2-Medulla, the inner portion of the parenchyma that contains a lesser number of lymphocytes.
- 3-Capsule, the external connective tissue that extends trabeculae to the margin of the cortex and medulla, the thymus contains variable numbers of plasma cells ,granulocytes, lymphocytes , mast cells, fat cells and macrophages.

The capsule and trabeculae also contain blood vessels, efferent (but not afferent) lymphatic vessels, and nerves ,the cortex is basophilic ,in contrast ,the medulla stains less .Thymic corpuscles are isolated masses of closely packed, concentrically arranged epithelioreticular cells. (View 34)



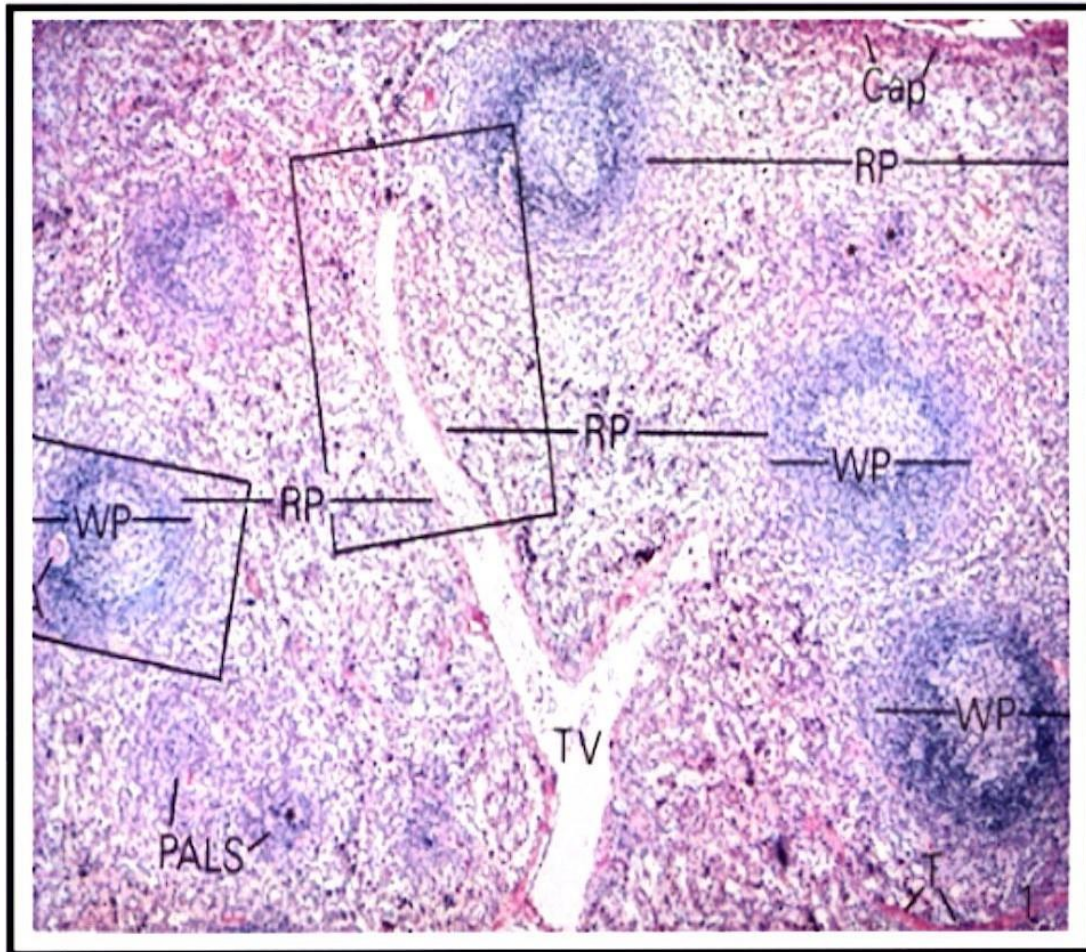
BV: blood vessels ,C: cortex ,L: lobule ,M: medulla ,T: trabeculae
Arrows, Hassall's corpuscles (View 34)

Spleen

The spleen ,which is about the size of clenched fist, is the largest lymphatic organ. It is located in the upper left quadrant of the abdominal cavity and has a rich blood supply .

The substance of the spleen , other than the capsule and trabeculae , consists of splenic pulp . This , in turn, is divided into ***white pulp*** and ***red pulp*** . The white pulp appears as circular or elongated whitish – gray areas surrounded by the red pulp ,and it consists of lymphatic tissue, mostly lymphocytes. While, red pulp has a red appearance because of its content of large numbers of red blood cells.

The spleen is surrounded by a capsule of dense connective tissue from which trabeculae extend into the substance of the organ. The hilum, located on the medial surface of the spleen, provides for the passage of the splenic artery and vein, nerves and lymphatic vessels. (View 35)



CA: central artery, Cap: capsule, RP: red pulp, WP: white pulp, T: trabeculae (View 35)

Lymphatic vessels

In addition to blood vessels, there is a set of vessels that circulates fluid, called lymph, through certain parts of the body. These lymphatic vessels are an adjunct to the blood vessels. Lymphatic vessels are unidirectional conveying fluid only from tissues, the smallest called lymphatic capillaries they are specially numerous in the loose connective tissues under the epithelium of the skin and mucous membrane. The largest lymphatic vessel, draining most of the body and emptying into the veins on the left side is the thoracic duct, the outer main channel is the right lymphatic duct.