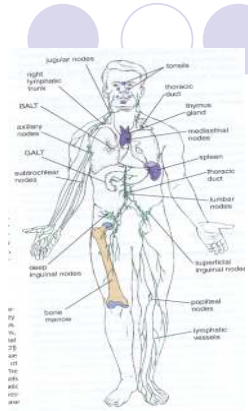


Lymphatic (Lymphoid) System

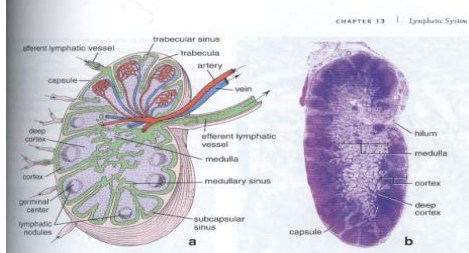
Introduction

- Lymphatic system consists of lymph, the lymphatic vessels and various lymphoid tissues in the body such as lymph nodes.
- Lymph nodes are generally oval consisting of the medulla and cortex with lymphatic vessels.
- The main lymphoid organs in the body are:
 - Lymph nodes
 - Spleen
 - Thymus , and



Lymph Nodes

- Found in neck mesentery and inguinal region and adapted for the infiltration of Lymph, lymphopoiesis and production of antibodies.
- They have reticular cells which can evolve into fixed and free tissue macrophages, which are ameboid and phagocytic.



Tonsils

- Situated beneath the surface endothelium of the pharynx.
- Three groups of tonsils from a protective role at the opening of the respiratory and digestive tracts. These are paired palatine tonsils and pharyngeal tonsils.
- Histological features of tonsils are the presence of crypts, lines by surface epithelium that extend deep into the lymphoid tissue and the presence of mucus and eromucus glands.

Thymus

- Thymus is a flat bilobed gland located above the heart.
- Thymus is composed mainly of two tpes of cells: lymphocytes and stellate cells.
- Thymus is most active in young animals.
- It secrete a hormonal substance that stimulates the production of lymphocytes.

Spleen

- Largest lymphoid organ in the body
- located in the upper portion of the abdomen, between the stomach and the diaphragm.
- Highly vascular.
- Parenchyma consists of areas of white and red pulps.
- Functions: as reservoir of red blood cells, in production of lymphocytes and antibodies, as a hemopoietic organ during fetal life. Filter blood passing through sinuses.



Involution of Lymphoid Tissue

- Most lymphoid tissue in man undergoes a decrease in size and activity after puberty.
- This process is particularly marked in the thymus, which becomes atrophic and infiltrate by fat cells.
- Tonsils also atrophy and become fibrotic after puberty.
- This involution can be reversed in presence of infection.
- Irradiation either by X-rays of ionizing radiation and administration of cortisol (or ACTH) also result in rapid destruction of

Immunity and Defence Mechanism

- Immunity is protecting the body against invading pathogenic organisms and malignant transformation of its own cells.
- The immune system is composed of
- Mononuclear Phagocyte system
 - Phagocytic cells
 - Macrophages &
 - Microglia
- Lymphocytes
 - B cells
 - T cells
- Lymphoid organs (lymph nodes, spleen, thymus)

Histopathology of Lymphoid System (Tumors of Lymphoid Origin)

- Hodgkin's disease
- Lymphosarcoma
- Chronic Lymphocytic leukemia