

LYMPHNODES

Lymph :- Lymph is the fluid that flows through the lymphatic system.

- Lymph is derived from the interstitial fluid.
- It is clear & colourless fluid consist of 96% water & 4% solids.

Lymphatic system :- It is a closed system of lymph vessels (channels) through which lymph flows.

- It is 'One-way' system that allows the lymph flow from tissue spaces towards the blood.

Lymphnodes :- Lymphnodes are small glandular structure located in the course of lymph vessels.

- It is also called 'Lymph glands' or 'Lymphatic nodes'.

⇒ Components of Lymphatic system :-

- ⊙ Lymph - The recovered fluid.
- ⊙ Lymphatic vessels - which transport the lymph.
- ⊙ Lymphatic tissue - Composed of aggregates of lymphocytes and macrophages.
- ⊙ Lymphatic organs - In which these cells are concentrated. (Thymus, Bone marrow, Lymph nodes, spleen.)

STRUCTURE OF LYMPH NODES :-

Each lymph node constitutes masses of lymphatic tissue, covered by a dense connective tissue capsule.

The structure are arranged in 3 layers namely -

- 1) Cortex
- 2) Paracortex
- 3) Medulla

1) Cortex :- Cortex is consist of primary & secondary lymphoid follicles. Primary follicle develops first.

- When some antigens enters the body & reach the lymph nodes, the cells of primary follicle proliferate.
- After proliferation the primary follicle becomes secondary follicle.
- Cortex also contains some B-lymphocytes & Macrophages.

2) Paracortex :- P.C is in between the cortex & medulla. Paracortex contains T-lymphocytes.

3) Medulla :- Medulla contains B and T lymphocytes & macrophages. Blood vessel of lymph node passes through medulla.

Lymphatic vessels to lymph node :-

L.N receives lymph by one or two lymphatic vessels called as afferent vessels.

Lymph passes through afferent vessels & small channels & reaches the cortex. It circulates through cortex, paracortex & medulla of the lymph node.

From medulla the lymph leaves the node via one or two efferent vessels.

Distribution of lymph nodes :-

Present along the course of lymphatic vessels in elbow, axilla, knee & groin. Also present in certain points in abdomen, thorax & neck, where many lymph vessel join.

3) Function of Lymph nodes :-

- Serve as filters which filter bacteria and toxic substances from the lymph.
(Water & electrolytes are removed but proteins & lipids are retained.)
- Bacteria & other toxic substances are destroyed by macrophages of lymph nodes. (Defense barriers.)
- Its internal framework supports the multiplication of lymphocytes.
- Its outer part has follicles, which produces plasma cells that releases antibodies.