Vaccines

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Vaccines

A network of organs and tissues which helps in the body getting rid of its unwanted materials such as toxins and other wastes is the lymphatic system. Its function is to transport its generated fluid, lymph, throughout the body which contains the cells involved in fighting infections.

The system consists of the thymus, lymph vessels, adenoid, lymph nodes, tonsils and spleen

The vessels are connected to the lymph nodes; which are similar to circulatory system’s veins and capillaries. Lymph nodes are hundreds in number and are present deeply inside throughout the whole body.

The spleen known to be the largest organ among all the lymphatic organs, which is located just on the left upper side of the kidney. It stores the amount of red and white blood cells and helps in fighting infections and other foreign invaders. (Olszewski, 2004)

The organ which is located primarily above the heart on chest is the thymus. This organ is involved in the storing of immature lymphocytes and helps them become mature lymphocytes to fight against the infection.

Tonsils are found in the pharynx which is just a large lymphatic cluster. They are the body's first line of defense as a part of the immune system.

The lymphatic system helps in removing the interstitial fluid from tissues into lymph fluid. It is effective in the absorption and the transportation of the fatty acids from the digestive system. It transports WBCs to the lymph nodes where adaptive immunity is initiated. Its main function is to fight off the bacterial functions by lymphocytes.

Lymph is an extracellular fluid which is accumulated in the spaces of tissues. Continuous deposition of the lymph into the tissues spaces can lead to the inflammation of that tissue which can be harmful. In the maintenance of homeostasis, systems drain out that lymph and pours them back into the blood (Olszewski, 2004).

In the case of homeostatic imbalance from the lymphatic system, swollen glands occur. (Cueni, 2008)

Liposome-based Adjuvant AS01 is a vaccine within the lymphatic system as its injection in the body initiates the activation of the immune cells and dendritic cells in the lymph node which drains muscles. (Melanie R. Neeland, 2016)

**References:**

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