

General understanding Immune system

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INTRODUCTION

Our immune system is important for our survival. Without an immune system, our bodies would be constantly under the attack from bacteria, viruses, parasites, and more. It is our immune system that keeps us healthy as we go through a study of pathogens [1].

This large network of cells and tissues is constantly on the watch for invaders, and once an enemy is noticed, a defence mechanism is made. The immune system is spread throughout the body and involves many types of cells, organs, proteins, and tissues. Importantly, it can differentiate our tissue from foreign tissue. Dead and faulty cells are also identified and removed by the immune system. If the immune system encounters a pathogen, in case of, a bacterium, virus, or parasite, it mounts a so-called immune response. Later, we will explain how this works, but first, we will introduce some of the main characters in the immune system [1].

White blood cells are also known as leukocytes. They circulate in the body in blood vessels and the lymphatic vessels that parallel the veins and arteries. White blood cells are on constant looks for pathogens. When they find a target, they begin to multiply and send signals out to other cell types to do the same. Our white blood cells are stored in different places in the body, which are introduced to as lymphoid organs [2]. These include the following:

1. Thymus – a gland between the lungs and just below the neck.
2. Spleen—an organ that filters the blood. It sits in the upper left of the abdomen.
3. Bone marrow—found in the center of the bones, it also produces red blood cells.
4. Lymph nodes—small glands positioned throughout the body, linked by lymphatic vessels.

There are two fundamental kinds of leukocyte:

1. Phagocytes

These cells encompass and retain microorganisms and separate them, adequately eating them. There are a few kinds, including:

Neutrophils—these are the most widely recognized kind of phagocyte and will in general assault microscopic organisms [1,2].

Monocytes – these important parts.

Macrophages – these watch for microorganisms and furthermore eliminate dead and biting the dust cells.

Pole cells – they have many positions, including assisting with recuperating wounds and shield against microbes.

Lymphocytes

Lymphocytes assist the body with recollecting past intruders and remember them in the event that they return to assault once more. Lymphocytes start their life in bone marrow. Some stay in the marrow and form into B

lymphocytes (B cells), others head to the thymus and become T lymphocytes (T cells) [2,3]. These two cell types play various parts:

B lymphocytes—they produce antibodies and assist with alarming the T lymphocytes.

T lymphocytes – they obliterate compromised cells in the body and assist with alarming different leukocytes.

Parts of the immune system, includes:

1. skin, which can help with keeping germs from getting into the body
2. Mucous layers, which are the damp, inward linings of certain organs and body holes. They make bodily fluid and different substances which can trap and battle germs.
3. White platelets, which battle germs
4. Organs and tissues of the lymph framework, like the thymus, spleen, tonsils, lymph hubs, lymph vessels, and bone marrow. They produce, store, and convey white platelets [3,4].

Your immune system defends your body against substances it sees as harmful or foreign. These substances are called antigens. They may be germs such as bacteria and viruses. They might be chemicals or toxins. They could also be cells that are damaged from things like cancer or sunburn. When your immune system recognizes an antigen, it attacks it. This is called an immune response. Part of this response is to make antibodies. Antibodies are proteins that work to attack, weaken, and destroy antigens. Your body also makes other cells to fight the antigen [3,4].

Afterwards, your immune system remembers the antigen. If it sees the antigen again, it can recognize it. It will quickly send out the right antibodies, so in most cases, you don't get sick. This protection against a certain disease is called immunity [2,3].

CONCLUSION

One reason for low T cell lymphocytes happens when the human immunodeficiency infection (HIV) taints and annihilates T cells (explicitly, the CD4+ subgroup of T lymphocytes, which become aide T cells). Without the key characterizes that these T cells give, the body becomes helpless to sharp diseases that in any case would not influence solid individuals. The degree of HIV movement is ordinarily dictated by estimating the rate for the HIV at last advances to (AIDS). The impacts of other infections or lymphocyte problems can likewise frequently be assessed by checking the quantities of lymphocytes present in the blood [3,4].

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