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Perspective

A note on neutrophils and their functions

Penel Ianc*

Department of Immunology, Université de Moncton, New Brunswick, Canada.

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DESCRIPTION

Neutrophils are a type of white blood cell that helps to heal damaged tissue and resolve disease. Neutrophil levels can increase or decrease in response to disease, injury, drug treatment, certain genetic conditions, and stress.

Functions of neutrophils

Neutrophils are separated into the bloodstream between the circulating pool, which is located in the large blood vessels and in the axial canal of small vessels, as well as the separating pool. In the absence of inflammation, the adjacent pool, better known as the "physiological region granulocyte pool", consists of granulocyte temporarily trapped in small capillaries, especially the lungs. This maintenance of neutrophils in capillaries appears to be a mechanical process due to the strength of neutrophils.

Dual neutrophil functions to monitor antibodies and the elimination of situ microorganisms or cellular debris require a rapid transition between a non-adhesive state to the adhesive state, allowing them to migrate to tissues where needed. The first phenomenon is observed, in the endothelium near the inflammatory site, of new adhesion molecules, caused by inflammatory mediators that are released by the damaged tissue, leading to local excretion of leukocytes. In postcapillary venules or pulmonary capillaries, the rate of slow flow, which is further reduced by the expansion of the vessel in the inflammatory areas, allows for loose and gradual adhesion, called "tethering," and causes the leukocyte to collapse near the endothelium. During this process of using the phone as a modem, neutrophils that respond to ligands especially chemokines are transported to the endothelium by a signaling process that activates integrin-mediated, stable and diffuse attachment.

Causes

Having a high percentage of neutrophils in human blood is called neutrophilia. This is a sign that the human body is infected. Neutrophilia can identify a few basic conditions and factors, including:

- Infection, which may be bacterial
- non-infectious inflammation
- injury
- surgery
- smoking or inhaling tobacco
- high level of stress
- Excessive exercise
- steroid use
- heart attack
- chronic myeloid leukemia

Neutrophils are a type of white blood cell. In fact, most of the white blood cells lead the immune response to neutrophils. There are four other types of white blood cells. Neutrophils are very diverse, making up 55 to 70 percent of our white blood cells. White blood cells, also called leukocytes, are an integral part of human immune system.

Human immune system is made up of tissues, organs, and cells. As part of this complex system, white blood cells monitor our bloodstream and lymphatic system.

When human are sick or have minor injuries, the things our body sees as external, known as antigens, call human immune system to work.

Examples of antigens include:

- germs
- mold
- poisoning
- cancer cells

*Corresponding author. penel Ianc, E-mail: penpia.icu@umon.ca.

White blood cells produce antibodies that are directed to the source of the virus or to inflammation. Neutrophils are important because, unlike other white blood cells, they are not confined to a specific circulatory system. They can move freely through the walls of the arteries and enter the tissues of our body to quickly attack all the antigens.