



An Overview of Blood Cells and its Risk Factors

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Received date: 03-Mar-2023, Manuscript No. JBRHD-23-93272;

Editor assigned date: 06-Mar-2023, PreQC No. JBRHD-23-93272 (PQ);

Reviewed date: 20-Mar-2023, QC No. JBRHD-23-93272;

Revised date: 27-Mar-2023, Manuscript No. JBRHD-23-93272 (R);

Published date: 06-Apr-2023 DOI: 10.4172/jbrhd.1000156.

Description

Blood is one of the most vital fluids in the human body, responsible for carrying oxygen and nutrients to all the tissues and organs, while also helping to remove waste products. It is a combination of cells, plasma, and various proteins, all of these factors combine to maintain the tissue running properly [1-4]. Blood cells that are composed of an array of different kinds of functions in the body are one of the most important components of blood. The three main types of blood cells are red blood cells (erythrocytes), white blood cells (leukocytes), and platelets (thrombocytes). Each type of blood cell is produced in the bone marrow, which is the spongy tissue found inside bones. The production of blood cells is a complex process that involves a wide range of different hormones and growth factors, and it is tightly regulated to ensure that the body always has the right number and types of cells available [5,6].

Red blood cells are the most numerous type of blood cell, and they are responsible for carrying oxygen from the lungs to the tissues throughout the body. They are small, biconcave disks that are filled with hemoglobin, a protein that binds to oxygen and provides the cells with their red colour [7]. Red blood cells are able to squeeze through tiny blood vessels are called as capillaries, due to their flexible shape, as they move through the body, allowing them to change shape. They have a lifespan of around 120 days, after which they are broken down and recycled by the body [8].

White blood cells are playing an important role in the immune system, which protects the body from infections and other foreign invaders. There are different types of white blood cells, each with its own unique function [9-11]. For example, neutrophils are the most abundant type of white blood cell and are responsible for attacking and destroying bacteria and other harmful substances. Lymphocytes are another type of white blood cell that recognizes and attacks specific types of foreign invaders, such as viruses and cancer cells. White blood cells have a shorter lifespan than red blood cells, typically a few days to a few weeks.

Platelets are the smallest type of blood cell, but they play a crucial role in the blood clotting process. When an artery is damaged, platelets rush to the site of the injury and clump together to form a

plug, which helps to stop the bleeding. They also release chemicals that signal the production of more blood clotting factors, which enhances the plug and assistance in the formation of a stable clot. Platelets have a lifespan of around 7-10 days and are constantly being produced by the bone marrow.

Overall, the health and function of arteries are essential for maintaining a healthy body. Any disruption in the production or function of blood cells can have serious consequences, including anemia, infections, bleeding disorders, and cancer. There are several different factors that can affect blood cell production, including genetics, diet, lifestyle, and environmental factors. In some cases, medical treatment may be required to resolve problems with blood cell production or function.

For example, anemia is a condition in which the body does not produce enough red blood cells or hemoglobin, resulting in fatigue, weakness, and other symptoms. Anemia can be caused by a wide range of factors, including iron deficiency, vitamin deficiency, chronic disease, and certain medications. Treatment for anemia may include dietary changes, supplements, or medications to stimulate red blood cell production.

Similarly, disorders of white blood cell production or function can result in an increased risk of infections or other immune-related problems. Some examples of these disorders include leukemia, lymphoma, and autoimmune diseases. Treatment for these conditions may involve chemotherapy, radiation, or other types of medications to suppress the immune system or target cancer cells.

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Citation: Williams M (2023) An Overview of Blood Cells and its Risk Factors. *J Blood Res Hematol Dis* 8:1.