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Hereditary Genetics: Current Research

Opinion Article

Hereditary Hematologic Disorders in Effect of Components and Correlation with their Severity

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DESCRIPTION

Blood disorders occur when some of the blood is not functioning. You may have excessive bleeding, a bleeding disorder, or just not feeling like yourself. With most blood disorders, people can expect a relatively normal life expectancy and lifestyle. Blood disorders can affect one of the three major components of blood.

Red blood cells

Red blood cells carry oxygen throughout the body. Haemoglobin is a protein in red blood cells. It carries oxygen. Red blood cells also remove carbon dioxide from the body and carry it to the lungs for breathing. Red blood cells are made from the red bone marrow of the bone. They usually live about 120 days before dying.

White blood cells

White blood cells protect your body from infection. As your white blood cells move through your bloodstream and tissues, they identify the location of the infection, act as a military general, and elsewhere to protect your body from attacks by unknown organisms. Notify the white blood cells of. When an army of white blood cells arrives, they repel invaders by producing antibody proteins that attach to and destroy the organism.

Platelets (which help blood to clot)

Platelets, also called thrombocytes, are blood cells. They are formed in your bone marrow, the spongy tissue of your bones. Platelets play an important role in blood clotting. Bleeding usually begins when one of the blood vessels is damaged.

- Potential causes for low platelet count include:
- Alcohol use disorder.
- Viral (hepatitis C, HIV) or bacterial infections.
- Autoimmune diseases.
- Bone marrow diseases (anemia) or cancer.
- Enlarged spleen.
- Chemical exposure.
- Side effect of a medication or treatment.
- Kidney infections or dysfunction.

In most cases, managing pre-existing medical conditions can improve low platelet counts.

Blood disorders can occur in correlation with their severity and may not be detected until major trauma or surgery occurs. Hemophilia is classified as less than 1% of normal plasma levels, with nosebleeds 20 to 30 times a year after mild trauma or excessive bleeding of muscles and joints (hemarthrosis). Diagnosis is usually made within the first two years of life and may occur shortly after circumcision. Newborns can also develop intracranial hemorrhage, cephalohematoma, or umbilical cord hemorrhage cord hemorrhage shortly after delivery. Patients with a more moderate illness (6%-30% of normal levels) can bleed excessively only after surgery or major trauma.

The most deadly disease in the world is Coronary Artery Disease (CAD), also known as ischemic heart disease, occurs when the blood vessels that supply blood to the heart narrow. If left untreated, CAD can cause chest pain, heart failure, and arrhythmias. It remains the leading cause of death, but mortality rates are declining in many European countries and the United States. This may be due to better forms of public health education, access to health care, and prevention.

Some of the most common hereditary blood disorders are:

Hemophilia

Hemophilia is a genetic disorder that affects the body's ability to form blood clots, resulting in prolonged bleeding in the patient after an injury. This disorder can also cause complications during surgery. The most common types of hemophilia are hemophilia A, which is caused by an inadequate amount of coagulation factor VIII, and hemophilia B, which is caused by a deficiency of coagulation factor IX. An estimated 400,000 people worldwide suffer from hemophilia.

Beta thalasemmia

Thalassemia is a hereditary blood disorder. This means that it is inherited from one or both parents via the gene. When you have thalassemia, your body makes less haemoglobin than usual. Hemoglobin is a protein found in red blood cells that carries oxygen to the body's organs and tissues and returns carbon dioxide from the organs and tissues to the lungs.

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Sickle cell disease

Sickle Cell Disease (SCD) is a group of hereditary diseases of red blood cells. Red blood cells contain hemoglobin. Hemoglobin is a molecule contained in red blood cells that carries oxygen to cells throughout the body. A person in this state has an atypical haemoglobin molecule called haemoglobin. This can transform red blood cells into a crescent or crescent shape.