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Editorial

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Treatment of Aplastic Anaemia: An Overview

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DESCRIPTION

Aplastic anaemia is a rare blood condition that can affect people of any age group. The stem cells in bone marrow are responsible for the production of new blood cells. The stem cells in the body of a person with aplastic anaemia are destroyed, and the body stops generating adequate blood cells, such as red blood cells, white blood cells, and platelets. The skin turns pale as a result of a lack of blood cells in the body. The decrease in the number of white blood cells causes a regular occurrence of numerous and persistent infections. The lack of healthy oxygen-carrying blood cells in the circulation causes shortness of breath, irregular heartbeat, and headaches. The body's blood platelet count is low, which causes prolonged bleeding from wounds, nose bleeds, and bleeding gums.

Aplastic anaemia could be an autoimmune disease in which the body's own immune system targets bone marrow stem cells. Radiation and chemotherapy treatments, exposure to hazardous substances such as benzene, antibiotic overuse, virus infections, and pregnancy are all possible causes of aplastic anaemia. There might not be a particular reason for this rare disease to arise (Idiopathic Aplastic Anaemia).

The count of all three types of blood cells is determined *via* blood testing. When a person has aplastic anaemia, their blood cell count becomes extremely low when compared to a healthy person. A biopsy of the bone marrow is performed. To rule out any other blood diseases, the sample taken from the hipbone is analysed under an electron microscope. Aplastic anaemia is confirmed by a lower count of blood cells in the bone marrow sample.

Aplastic anaemia treatment is determined on the severity of the disorder. Blood transfusions, bone marrow transplantation, and medicines are prescribed depending on the patient's age. Blood transfusions aid in the treatment of anaemia and the prevention of excessive bleeding. Excess iron in the body should be treated with medicine, and immune-suppressants should be administered to prevent the body from building antibodies to the transfused blood.

Only if a suitable donor can be found, the stem cell transplantation becomes one of the successful treatment possibilities for individuals with severe aplastic anaemia. The donor's healthy stem cells are delivered intravenously into the patient. The stem cells settle in the bone marrow cavities and begin to produce new blood cells. To reduce the chance of transplant rejection, the patient is given immune-suppressants and other drugs.

Immuno-suppressants are recommended when aplastic anaemia is caused by an autoimmune disease. Anti-thymocyte globulin and cyclosporine are used simultaneously to inhibit immune cells that cause harm to bone marrow tissues. These medications are combined with corticosteroids. These medications, however, damage the immune system. When the medications are stopped, there's a chance that aplastic anaemia will reoccur. Antibiotics and antivirals are needed to prevent infections because the immune system is already impaired.

To stimulate the formation of new blood cells in the bone marrow, medications including Sargramostim, Filgrastim, Pegfilgrastim, Epoetin Alfa and Eltrombopag, as well as growth factors, are utilised. The state of aplastic anaemia caused by pregnancy improves once the pregnancy is over.