

Aplastic and Chronic Disease Anemia

Aplastic Anemia

Another type of anemia is aplastic anemia, which is when the body fails to produce enough RBCs. It can be caused by bone marrow damage due to radiation/chemotherapy, toxic agents, and infections. However, many cases are idiopathic, meaning that they arise spontaneously and have no obvious cause. Some symptoms of aplastic anemia are fatigue, pallor, petechiae, and infection. In a blood test of a patient with aplastic anemia it is common to see a decrease in red blood cells, platelets and neutrophils. Treatment may include bone marrow transplants, immunosuppressive therapy, blood transfusions, and corticosteroid therapy.

Chronic Disease and Anemia

Anemia can occur due to chronic diseases like AIDS, osteomyelitis, cancers, rheumatoid arthritis, lupus, inflammatory bowel disease (Crohn's disease and ulcerative colitis), and chronic kidney disease. Tumor cells, autoimmune cells, and pathogens can cause activation of T-cells and cause the release of cytokines (IL-1 and TNF-alpha) that can inhibit erythropoietin production or EPO response. Erythroid precursors are also inhibited and higher hepcidin levels from the liver can be stimulated. This can cause changes in iron homeostasis that can affect RBC production. Therapy includes treatment of the causal condition as well as blood transfusions, erythropoietin administration, and iron supplementation.



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