

ANEMIA

* Anemia is a condition in which oxygen carrying capacity of blood is reduced.

* All types of Anemia are characterized by



→ Reduced NO. of RBCs (or)

→ Decreased Amount of Hemoglobin in blood

* A person with Anemia feels fatigued and is intolerant to cold



Both are related to lack of oxygen needed for ATP and heat production.

* Also skin appears pale (due to low content of red coloured hemoglobin circulating in skin vessels).

TYPES OF ANEMIA:-

(1) Iron-deficiency Anemia — Inadequate Absorption of Iron, Excessive loss of Iron, Increased Iron requirement (or) Insufficient intake of Iron causes Iron deficiency Anemia.

* Women are at greater risk of Iron-deficiency Anemia due to → Menstrual blood losses
→ Increased Iron demands of growing fetus during pregnancy.

* Gastrointestinal losses occurs with Malignancy (cancer) (or) ulceration
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contribute to this type of Anemia.

(2) Megaloblastic Anemia — Inadequate Intake of Vitamin B₁₂ (or) Folic Acid. causes Megaloblastic Anemia.

* In this Red Bone Marrow produces large, Abnormal RBCs (Megaloblasts)

* It may also caused by drugs that change gastric secretion (or) are used to treat cancer.

(3) pernicious Anemia :- Insufficient hemopoiesis resulting from inability of stomach to produce intrinsic factors which is needed for Absorption of vitamin B₁₂ in small intestine causes Pernicious Anemia.

(4) Hemorrhagic Anemia :- Excessive loss of RBCs through bleeding from large wounds, stomach ulcers (or) heavy Menstruation
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Leads to Hemorrhagic Anemia.

(5) Hemolytic Anemia - RBC plasma Membranes rupture prematurely in Hemolytic Anemia.

* Released Hemoglobin enter into plasma and may damage the filtering units (glomeruli) in kidneys.

* The condition may result from inherited defects such as Abnormal RBCs enzymes.

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From outside Agents such as parasites, toxins or Antibodies from incompatible transfused blood-

(6) Thalassemia - Deficient Synthesis of Hemoglobin occurs in Thalassemia, a group of hereditary hemolytic Anemias.

- In this RBCs are

- small (Microcytic)
- pale (Hypochromic)
- short-lived

(7) Aplastic Anemia - Destruction of Red Bone Marrow results in Aplastic Anemia.

- It is caused by Toxins, gamma radiation and some Medications that Inhibits enzymes needed for Hemopoiesis.