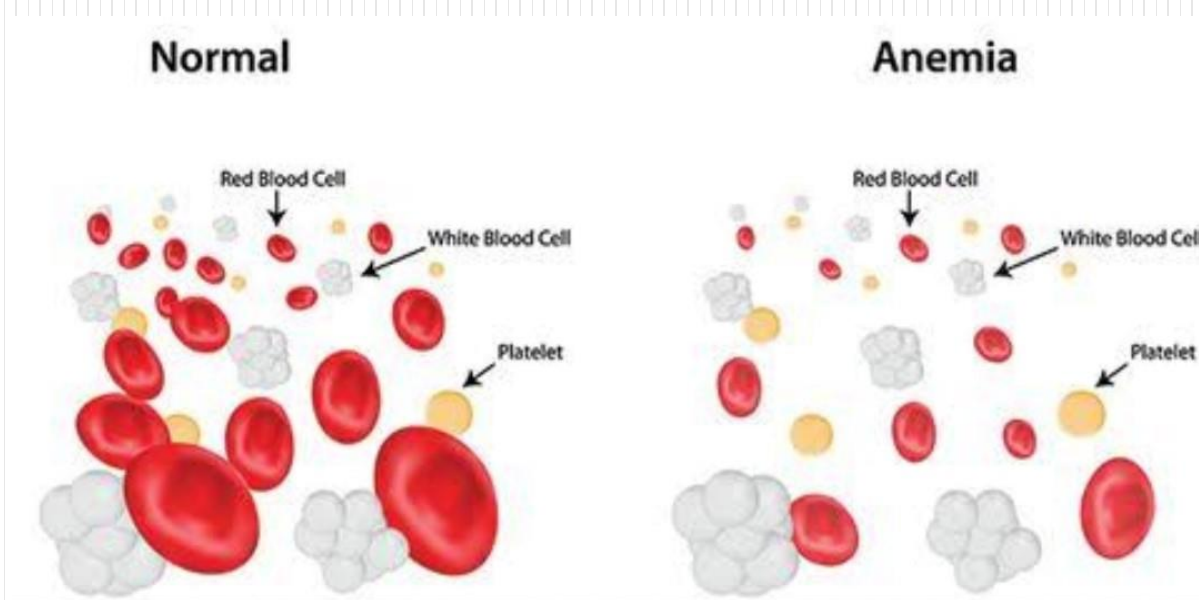
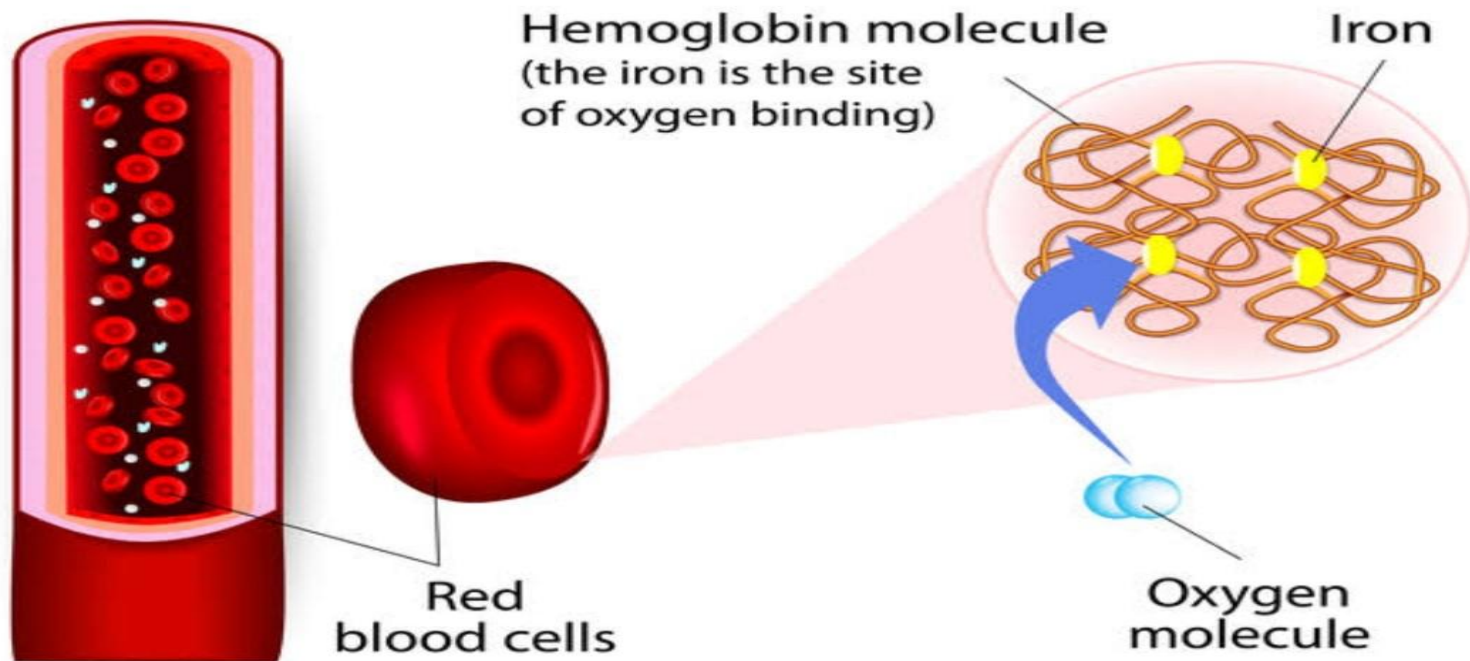


Anaemia



Definition

- It is defined as a state in which haemoglobin level in blood goes below its normal range. The normal range of haemoglobin in blood varies in males and females.



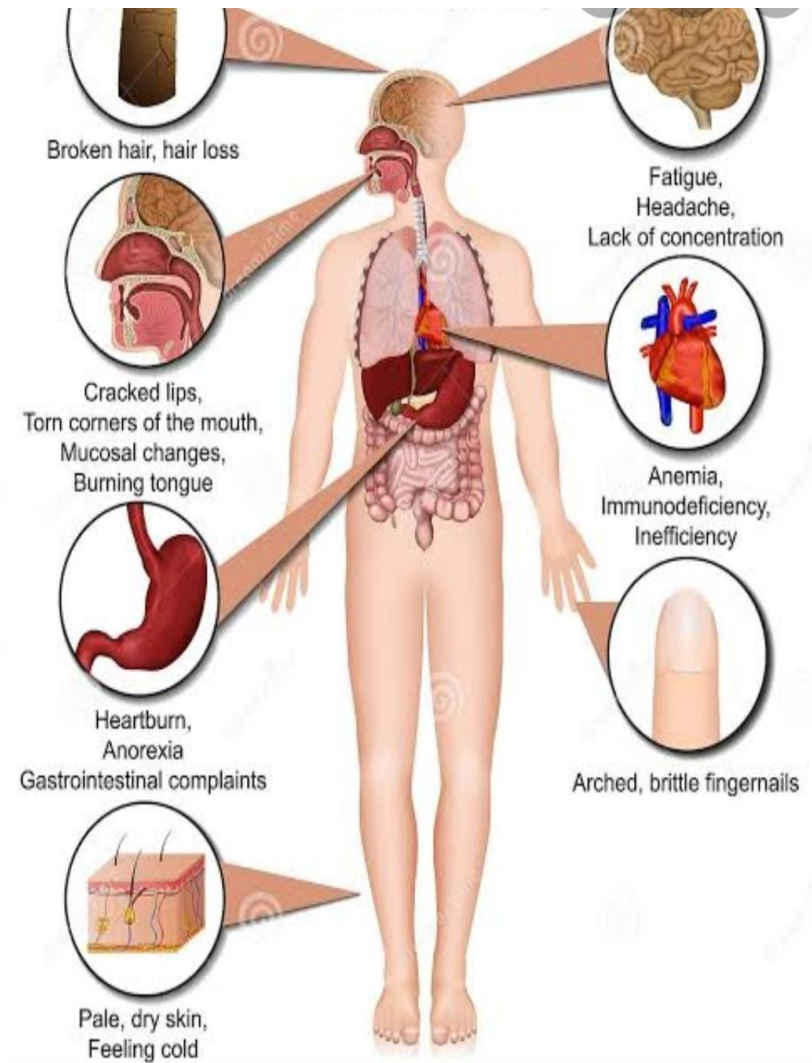
Classification on the basis of causes

- **Impaired Erythrocyte production**
- **Iron deficiency anaemia** – It is due to the deficiency of iron in blood.
- **Megaloblastic anaemia** - Maturation of erythrocytes is impaired when deficiency of vitamin B12 and/or folic acid occurs.
 - **Vitamin B12 deficiency anaemia: Pernicious anaemia**- It is an autoimmune disease in which auto-antibodies destroy intrinsic factor (IF) and parietal cells in the stomach.
 - **Folic acid deficiency anaemia**- Deficiency of folic acid in blood may be due to dietary deficiency or Malabsorption of folic acid from Jejunum.
- **Aplastic anaemia** – It is defined as a condition in which acellular or markedly hypocellular bone marrow results in anaemia.
- **Increased erythrocyte loss**
- **Hemolytic anaemia**
- **Congenital:**
 - **Sickle cell anaemia**- The erythrocytes become sickle shaped when deficiency of oxygen makes hemoglobin misshaped. The sickle cells do not move smoothly through the small blood vessels which tend to increase the viscosity of the blood leading to blood clotting, ischemia and infarction.
 - **Thalassaemia**- In this type of anaemia, early hemolysis occurs due to reduced globin synthesis with resultant hemoglobin synthesis. It is due to the reduction or absence of any globin chains.
- **Acquired** –In this type of anaemia the antibodies develop against red cell antigens. These antibodies cause destruction of red cells.

Iron deficiency anaemia

- **Causes:**

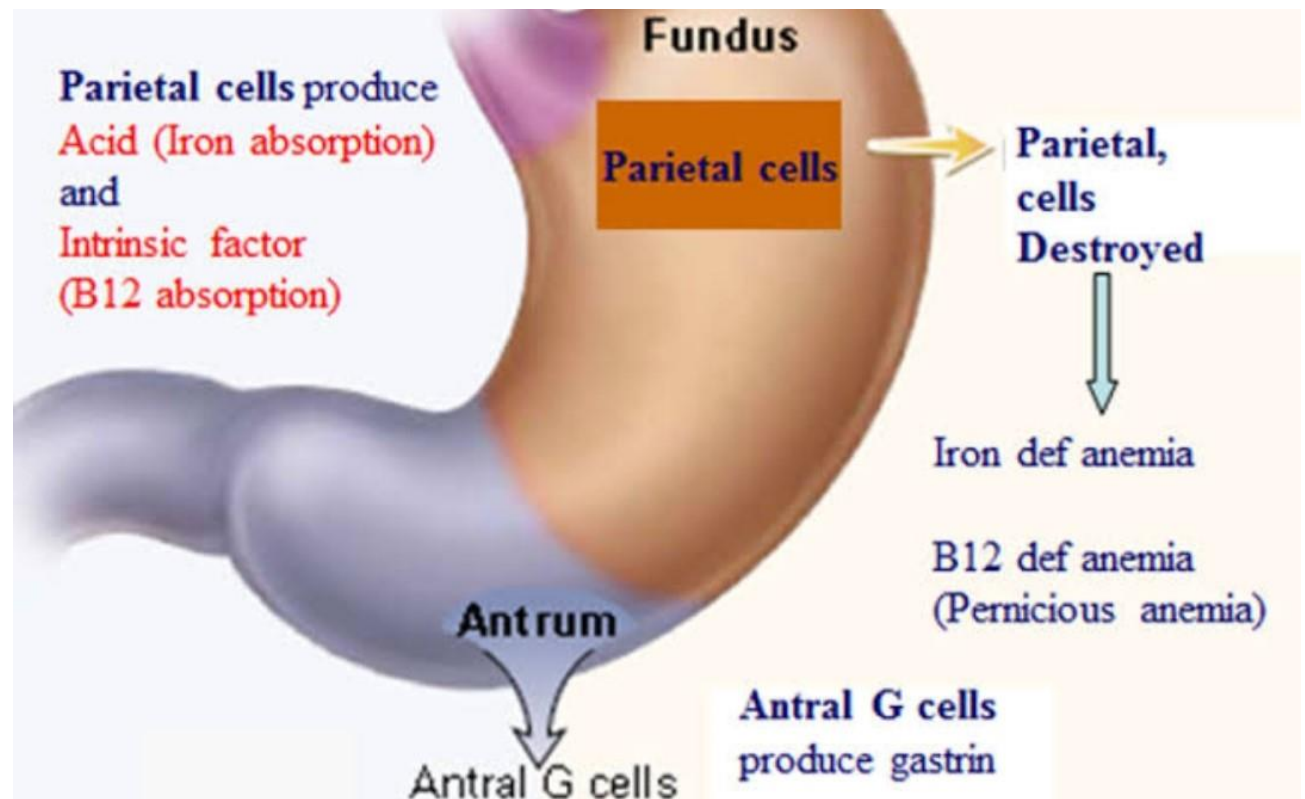
- Physiological (postnatal growth spurt, menstruation, pregnancy)
- Hook worm manifestation
- Menorrhagia
- Peptic ulcer
- Piles
- Malabsorption



Pernicious anaemia

- **Causes:**

- Inadequate intake of Vitamin B12
- Inadequate absorption of Vitamin B12 from gut
- Diseases of terminal ileum



Folic acid deficiency anaemia

- **Causes:**

- Inadequate intake
- Increased demand (pathological / pregnancy / lactation / infancy)
- Malabsorption
- Dugs intake
- Alcohol consumption

Folate aids in the production of red blood cells

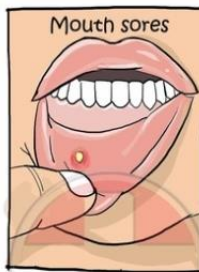
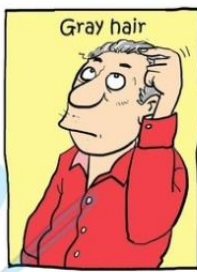


Folate aids in the synthesis of DNA



Cell

Folate works with B12 and vitamin C to help the body digest and utilize proteins



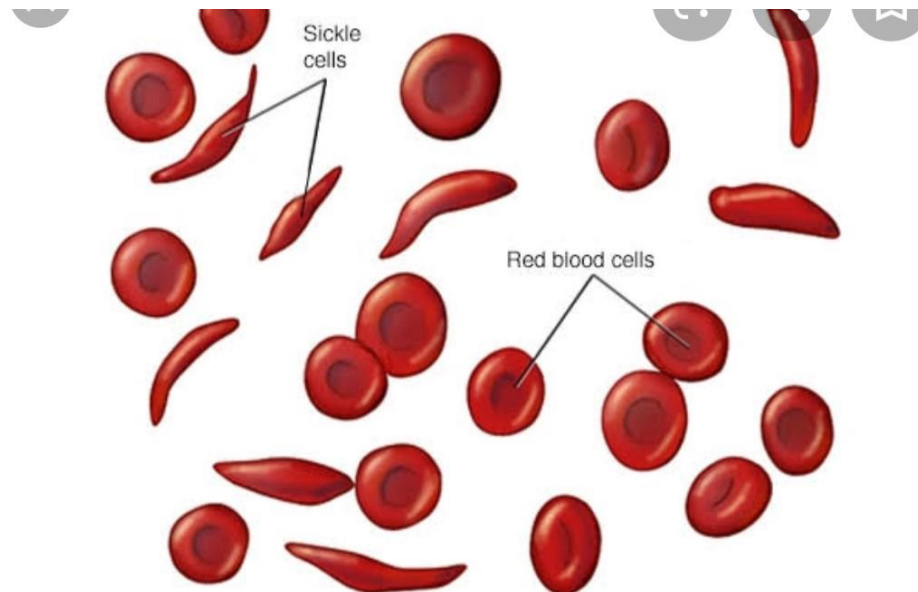
Aplastic anaemia

- **Causes:**

- Drugs intake(Antibacterial/ Tranquilizers/ Antirheumatic / Antidiabetic)
- Viral infections
- Pancreatitis

Sickle cell anaemia

- **Causes:**
 - Fever
 - Sluggish blood flow
 - Reduction in red cell water content



Symptoms

- Fatigue
- Dizziness
- Headache
- Irritability
- Sleep disturbances
- Lack of concentration
- Anorexia
- Indigestion
- Nausea
- Bowel disturbances
- Excessive tiredness
- Exertion
- Dyspnoea
- Chest pain
- Muscle pain
- Cramping
- Tachycardia
- Pallor
- Poor resistance to infection
- Oedema in legs

