

Dietary lack

Impaired Absorption

↑ Demand

Chronic Blood loss:

→ Hemoglobin - 15-300 g/L

below indicate Anemia

→ Hemosiderin → found in Reticuloendothelial cells.
appear as golden yellow granules in the cytoplasm of the cell.

st with prussian blue (Pearl's stain)

↳ hemosiderin takes blue-black color.

↓
due to Iron React with Potassium ferrocyanide

RDA = 10-20. 5-10 mg/day (M) 20 mg/day (F)

Absorption from duodenum & proximal jejunum

PATHOGENESIS:

due to def of Iron causing defective heme synthesis

→ Produce - hypochromic microcytic Anemia

→ Progressive depletion of Hemosiderin & ferritin Reserve lower serum Fe & transferrin saturation level.

→ ↑ erythropoietin Activity.

→ Causes:

* Dietary deficiency

Malabsorbed (Dietary def)
Impaired Absorption - Celiac disease, chronic disease
↑ Demand - Pregnancy, lactation, growing child
Chronic Blood loss - Peptic ulcer, hemophylos, GI bleed

Lab Xray Findings:

Hb & PCV ↓

MCV ↓, MCH ↓ MCHC ↓

RDW ↑ (11.5-14.5) normal > 15%. Wt sign of iron def

Peripheral smear:

RBC - Microcytic hypochromic
↓
small size of RBC
small nuclei of lymphocyte
→ zone of pallor well defined.
producing hypochromasia.

In some cell only peripheral rim of Hb is seen (ring / pencil cell).

→ Moderate Anisocytosis w/ polichromasia → pencil shaped cell

→ WBC normal

→ Platelet - Normal

→ Reticulocyte count → ↓

Bone Marrow:

- hypocellularity

- M:E Ratio = 1:1 to 1:2

→ asymmetrical hyperplasia, show microcytoblastic maturation.

→ Myelopoiesis: Normal.

→ Megakaryopoiesis

→ Absence of bone marrow iron: field test.

shows -ve Prussian Blue Reaction.

Clinical features of IDA:

→ Fatigue, palpitations, breathlessness

→ Pharyngeal / esophageal webs - can cause dysphagia

→ Palferson-Kelly or Plummer Vinson syndrome

• Plummer Vinson

• Atrophic glossitis

• Esophageal webs

→ PICA

→ CAF

Physical findings

→ Angular stomatitis of glossitis

→ Koilonychia