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Megaloblastic Anaemia

Symptoms | Causes | Diagnosis | Treatment | Preventions

Normal Anemia

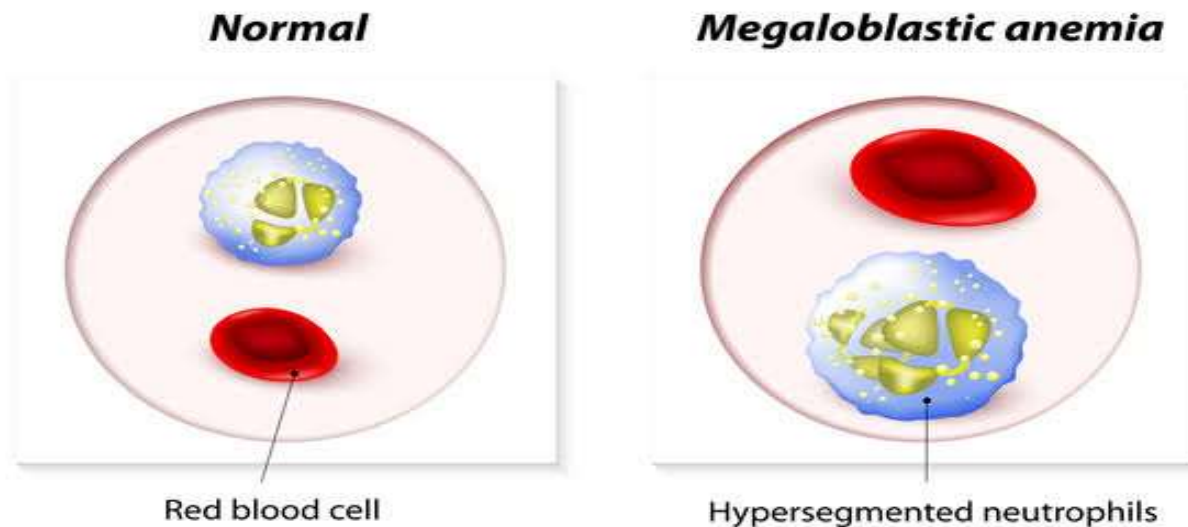


Megaloblastic Anemia



INTRODUCTION

- Megaloblastic anemia is characterized by red blood cells that are larger than normal.
- There also aren't enough of them.
- It's known as vitamin B-12 or folate deficiency anemia, or macrocytic anemia, as well.
- Megaloblastic anemia is caused when red blood cells aren't produced properly.



- Megaloblast is a large, abnormally developed RBC due to deficiency of folic acid or vitamin B12 in the Bone marrow.
- Megaloblastic anemia is an anemia that results from inhibition of DNA synthesis during red blood cell production.
- Megaloblastic anemia is a Classification of macrocytic anemia.
- It is characterised by peripheral blood smear showing hypersegmented neutrophils and macrocytosis.

ETIOLOGY

Vitamin B12 deficiency

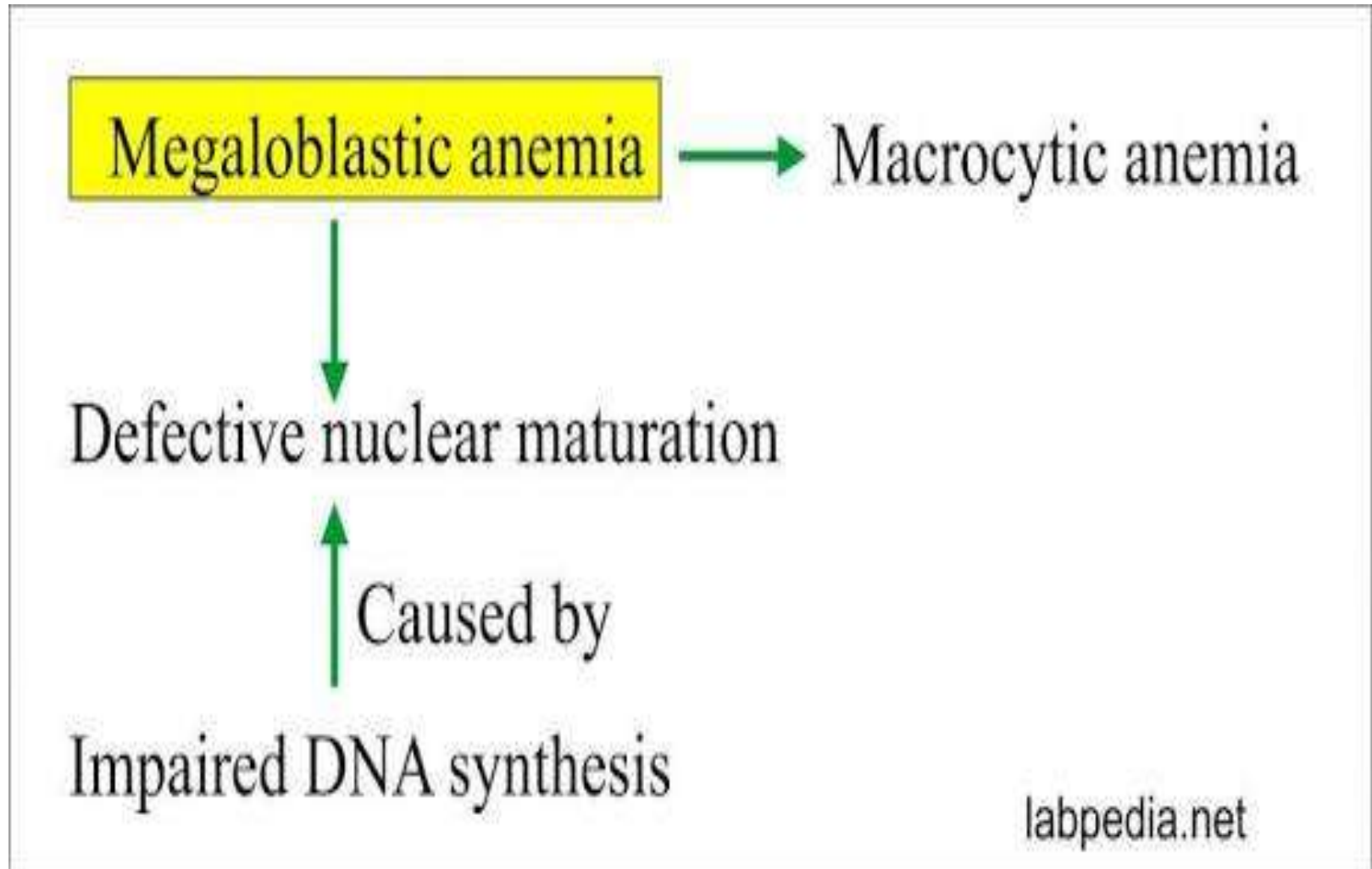
- Achlorhydria
- Deficient intake
- Deficient intrinsic factor
- Celiac disease

Folate deficiency

- Alcohol
- Deficient intake
- Increased demand
- Malabsorption

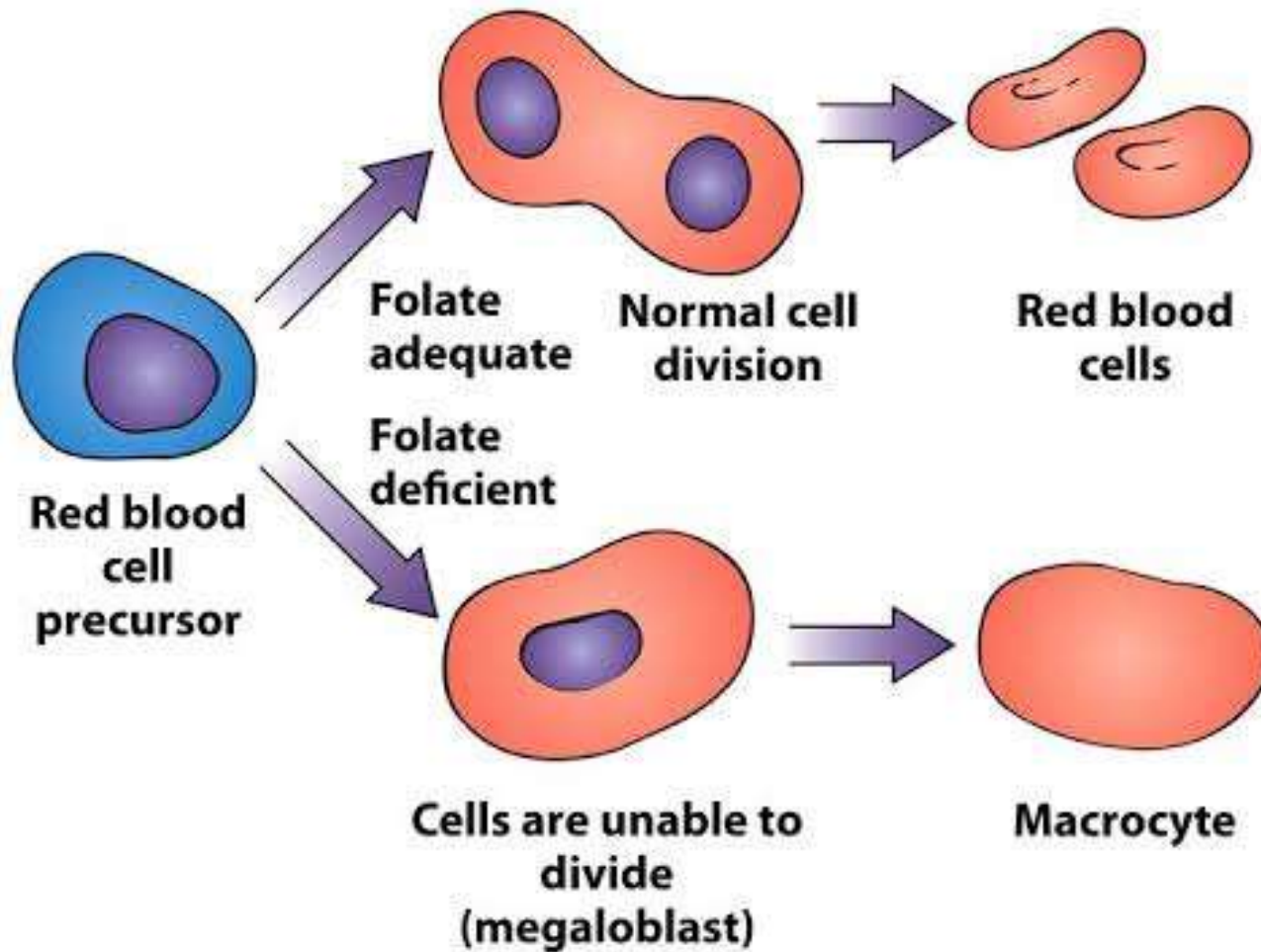
Combined vitamin B12 and folic acid deficiency

PATHOPHYSIOLOGY



- Deficiency of vitamin B12 or folic acid
- Leads to inhibition of DNA synthesis during RBC production
- When DNA synthesis is impaired, the cells cannot progress from growth stage to mitosis stage
- Which means there is no cell proliferation
- This leads to continuous cell growth without division, which present as macrocytosis.
- Thereby, unbalanced cell proliferation leads to decreased number of red blood cell production in bone marrow.

Folate Deficiency and Anemia



DIAGNOSIS

- The gold standard is: decreased level of vitamin B12 in blood.
- Decreased red blood cell count.
- Decreased Haemoglobin level
- Increased mean corpuscular volume (MCV).



Thank You