

Microcytic anemia; an overview.

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Description

Microcytic anaemia is any of several types of anaemia characterized by small red blood cells (called microcytes). The normal mean corpuscular volume (abbreviated to MCV on full blood count results, and also known as mean cell volume) is approximately 80–100 fL. When the MCV is <80 fL, the red cells are described as microcytic and when >100 fL, macrocytic (the latter occur in macrocytic anemia). The MCV is the average red blood cell size.

In microcytic anaemia, the red blood cells (erythrocytes) contain less hemoglobin and are usually also hypochromic, meaning that the red blood cells appear paler than usual. This can be reflected by a low mean corpuscular hemoglobin concentration (MCHC), a measure representing the amount of hemoglobin per unit volume of fluid inside the cell; normally about 320–360 g/L or 32–36 g/dL. Typically, therefore, anemia of this category is described as "microcytic, hypochromic anaemia".

Other causes that are typically thought of as causing normocytic anemia or macrocytic anemia must also be considered, and the presence of two or more causes of anemia can distort the typical picture.

There are five main causes of microcytic anemia forming the acronym TAILS. Thalassemia, anemia of chronic disease, iron deficiency, lead poisoning and congenital sideroblastic anemia. Only the first three are common in most parts of the world. In theory, these three can be differentiated by their red blood cell (RBC) morphologies. Anemia of chronic disease shows unremarkable RBCs, iron deficiency shows anisocytosis, anisochromia and elliptocytosis, and thalassemias demonstrate target cells and coarse basophilic stippling. In practice though elliptocytes and anisocytosis are often seen in thalassemia and target cells occasionally in iron deficiency. All three may show

unremarkable RBC morphology. Basophilic stippling is one morphologic finding of thalassemia which does not appear in iron deficiency or anemia of chronic disease. The patient should be in an ethnically at risk group and the diagnosis is not confirmed without a confirmatory method such as hemoglobin HPLC, H body staining, molecular testing or another reliable method.

This absence of oxygen can happen in light of the fact that the body needs more red platelets, or on the grounds that the red platelets don't contain sufficient hemoglobin, which is a protein that transports oxygen in the blood. When there is an absence of hemoglobin in a red platelet, the cell is more modest in measure and can convey less oxygen.

Many people have no symptoms of microcytic anemia in its earlier stages. The American Academy of Family Physicians (AAFP) state that doctors discover it by chance when a person is having a blood test for another reason.

For those who have more severe anemia, symptoms may include:

pale skin that looks gray, pale color inside the eyelids or under the nails, weakness or tiredness, irritability, shortness of breath, rapid heart rate, pica, which is a desire to eat things such as ice, dirt, and clay. C-PAP.

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