

Megaloblastic anemia is a condition in which the bone marrow produces unusually large, structurally abnormal, immature red blood cells (megaloblasts). Bone marrow, the soft spongy material found inside certain bones, produces the main blood cells of the body -red cells, white cells, and platelets. Anemia is a condition characterized by the low levels of circulating, red blood cells. Red blood cells are released from the marrow into the bloodstream where they travel throughout the body delivering oxygen to tissue. A deficiency in healthy, fully-matured red blood cells can result in fatigue, paleness of the skin (pallor), lightheadedness and additional findings. Megaloblastic anemia has several different causes - deficiencies of either cobalamin (vitamin B12) or folate (vitamin B9) are the two most common causes. These vitamins play an essential role in the production of red blood cells.

Megaloblastic anemia affects males and females in equal numbers. It can occur in individuals of any racial or ethnic background. Because the causes of megaloblastic anemia vary and because some individuals may not exhibit any obvious symptoms (asymptomatic), determining its true frequency in the general population is difficult. A diagnosis of megaloblastic anemia is made based upon a thorough clinical evaluation, a detailed patient history, identification of characteristic findings and a variety of blood tests. Blood tests may reveal the abnormally large, misshapen red blood cells that characterize megaloblastic anemia. Blood tests can also confirm cobalamin or folate deficiency as the cause of megaloblastic anemia. Additional tests such as a Schilling test, which confirms poor absorption as the cause of cobalamin deficiency, may be necessary.