*Amy*

*Vitamin deficiency anemia results from low or depleted levels of vitamin B12 or folate (folic acid).*

People may be weak, short of breath, and pale.

Nerves may also malfunction.

Blood tests can detect abnormal cells that indicate vitamin deficiency anemia.

The deficient vitamin is replaced

Marcus

Sickle cell disease affects blacks almost exclusively. About 10% of blacks in the United States have one copy of the gene for sickle cell disease (that is, they have sickle cell trait). People who have sickle cell trait do not develop sickle cell disease, although rarely they may notice blood in their urine. About 0.3% of blacks have two copies of the gene. These people develop the disease. In sickle cell disease, the red blood cells contain an abnormal form of hemoglobin (the protein that carries oxygen). The abnormal form of hemoglobin is called hemoglobin S. When red blood cells contain a large amount of hemoglobin S, they can become deformed into a sickle-shape. Not every red blood cell is sickle-shaped. The sickle-shaped cells become more numerous when people have infections or low levels of oxygen in the blood. Anything that reduces the amount of oxygen in their blood, such as vigorous exercise, mountain climbing, flying at high altitudes without sufficient oxygen, or an illness, may bring on a sickle cell crisis. A sickle cell crisis may consist of a sudden worsening of anemia, pain (often in the abdomen or long bones of the arms and legs), fever, and sometimes shortness of breath. Abdominal pain may be severe, and vomiting may occur. Doctors recognize anemia, stomach and bone pain, and nausea in a young black person as signs of a sickle cell crisis. When doctors suspect sickle cell disease, they do blood tests. Sickle-shaped red blood cells and fragments of destroyed red blood cells can be seen in a blood sample examined under a microscope. Another blood test called hemoglobin electrophoresis is also done. In electrophoresis, an electrical current is used to separate the different types of hemoglobin and thus detect abnormal hemoglobin. Blood tests are done on relatives of people with the disorder because they also may have sickle cell disease or trait. Discovering the trait in people may be important for family planning, to determine their risk of having a child with sickle cell disease.

Newborns are routinely screened with a blood test. Newer tests can be done during early pregnancy to screen the fetus and allow prenatal counseling for couples who are at risk of having a child with sickle cell disease. Fetal cells obtained through amniocentesis or chorionic villus sampling are tested for the presence of the sickle cell gene.

Because sickle cell disease is rarely cured, treatment is aimed at preventing crises, controlling the anemia, and relieving symptoms. People who have this disease should try to avoid activities that reduce the amount of oxygen in their blood and should seek prompt medical attention for even minor illnesses, such as viral infections. Because people are at increased risk of infection, they should receive pneumococcal and Haemophilus influenzae vaccines.

Richard???

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