

Texas DSHS Handout Alpha Thalassemia Trait

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ALPHA THALASSEMIA TRAIT IN AN AFRICAN AMERICAN NEONATE Information for Primary Care Providers and Families

This baby's newborn screening test showed hemoglobin Barts in addition to the normal newborn hemoglobins of F and A. This indicates that the baby has alpha thalassemia trait. Alpha thalassemia trait is an inherited abnormality of hemoglobin that results in a very mild anemia (low blood hemoglobin level) and smaller size of the red blood cells (reduced MCV). It is commonly mistaken for iron deficiency (which also causes anemia and small red blood cells). Neither iron nor any other treatment is necessary for alpha thalassemia trait.

What do the words "alpha", "thalassemia," and "trait" mean? Alpha refers to one of the protein chains that make up hemoglobin (the others are called beta, delta, and gamma). In alpha thalassemia there is a reduction in the number of alpha chains. Thalassemia is the name given to a group of common blood conditions in which one of the hemoglobin chains is decreased. Thalassemias are among the most common inherited conditions in the world, seen in those of African ancestry as well as persons from southern Europe (around the Mediterranean), the Middle East, and throughout Asia. Trait simply means carrying the blood condition without it usually causing any problems in the person.

Alpha thalassemia trait in persons of African ancestry is not a disease. It does not cause illness. Persons who carry it have no problems resulting from it. No treatment is available or necessary. It does not turn into a more serious blood condition.

Alpha thalassemia trait may come to the attention of doctors in one of two ways:

- 1) By newborn screening with Hemoglobin Barts as in this baby's case. Although the hemoglobin Barts causes no problems and goes away after several months, it is very specific for a baby having alpha thalassemia trait.
- 2) In older infants and children a very mild anemia (a slightly low hemoglobin count) and small red blood cells (reduced MCV) at the time of a blood count may alert the primary doctor that something is wrong. Sometimes iron deficiency is suspected as the diagnosis, but iron treatment is ineffective.

Summary: Alpha thalassemia trait is a common cause of mild microcytic anemia (anemia associated with small red blood cells). It occurs in 2-3% of African Americans. It does not cause disease. It does not turn into other blood conditions, and it does not require treatment. However, it is present for life, so those that have alpha thalassemia

should be aware of it. In conclusion, there is no reason to worry about alpha thalassemia trait. That is good news!

Note: This information sheet pertains to alpha thalassemia only in those of African ancestry. In persons of southern European, Middle Eastern, or Asian ancestry, alpha thalassemia trait can be a more significant problem because of its genetic implications. The parents of such babies should consider consulting a hematologist or a genetic counselor.

This information sheet was prepared by members of the Hematology staff at UT Southwestern and Children's Medical Center Dallas.