Sickle Cell Trait vs. Sickle Cell Disease

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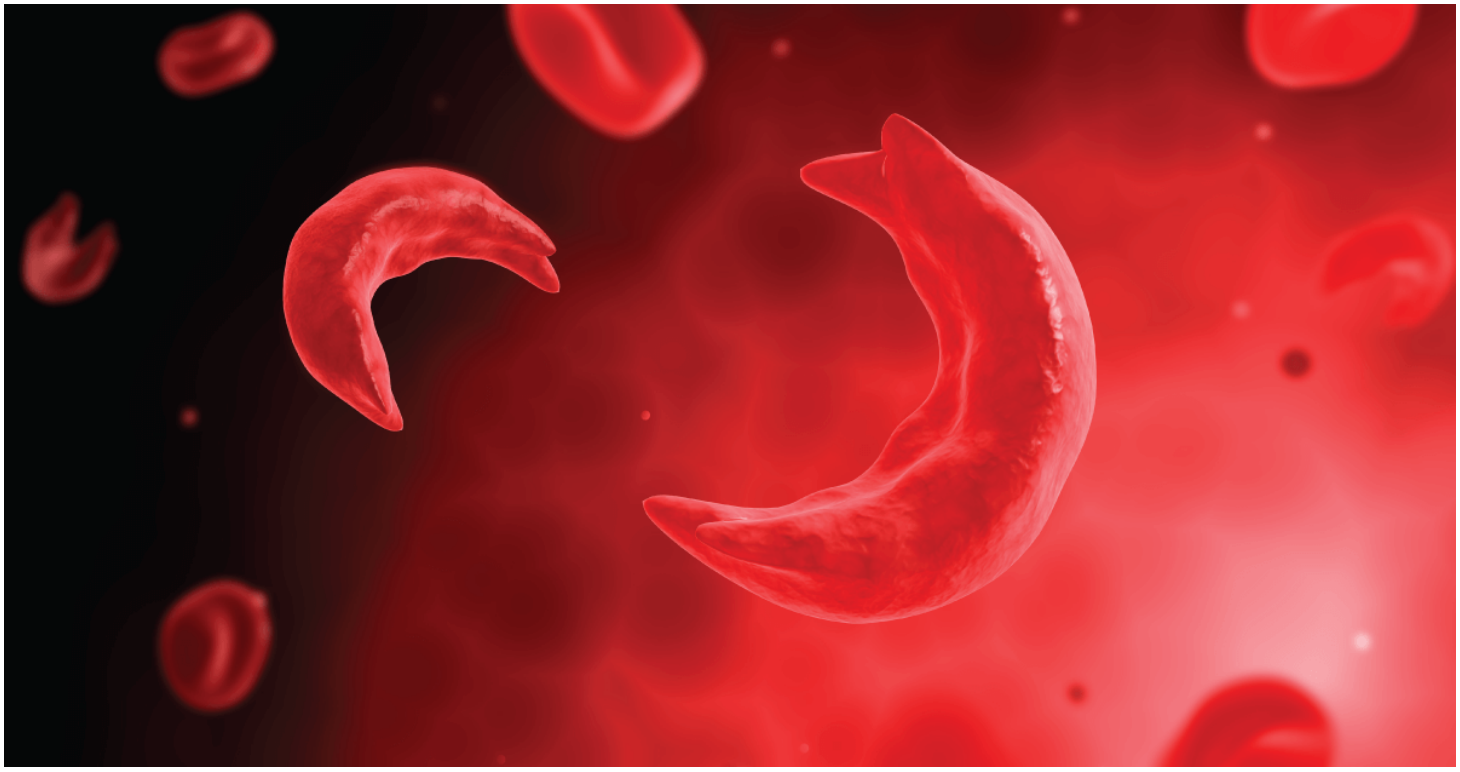

Millions of people worldwide are affected by the sickle cell blood disorder. About 100,000 people in the U.S. have sickle cell disease. It mostly affects African Americans, but it can also affect people from Hispanic, southern European, Middle Eastern and Asian Indian backgrounds.

Another 2.5 million people in the U.S. have sickle cell trait (SCT). But having sickle cell trait (SCT) is not the same as having sickle cell disease (SCD).

What is the difference between having sickle cell trait and sickle cell disease? Read on to find out—and learn the next steps to take if you or someone in your family is diagnosed with these conditions.

Sickle Cell Disease

People with sickle cell disease have red blood cells that are crescent (or sickle) shaped. This abnormal shape makes it difficult for the cells to travel through the blood vessels. As the sickle cells clog the blood vessel, they can block blood flow to various parts of the body, causing painful episodes (known as sickle cell crises) and raise the risk of infection. In addition, sickle cells die earlier than healthy cells, causing a contant shortage of red blood cells, also known as anemia.

SCD is diagnosed by a blood test. There are many forms of sickle cell disease, including sickle cell anemia, which is the most common and also the most severe. With all forms of SCD, symptoms can vary and severity from one person to another, but include serious pain, fatigue, shortness of breath, and dizziness.

People with SCD are at a higher risk for health complications such as infections, stroke, eye damage, and acute chest syndrome, a condition that causes chest pain, trouble breathing, fever, and coughing. It’s important that people with the condition work with their healthcare provider to manage their symptoms.

Currently, there is no widely available cure for sickle cell disease, but sickle cell research efforts are underway, including pain management and gene therapy. In late 2019, two new treatments were approved by the FDA to treat the condition.

Sickle Cell Trait

When someone has sickle cell trait (SCT), it means they have inherited one sickle cell gene and one normal gene. People with SCT have both normal red blood cells and some sickle-shaped red blood cells. Most people with SCT do not have any symptoms of sickle cell disease.

As carriers of the sickle cell gene, though, parents have a 50% chance of passing the gene on to their children. That means people with sickle cell trait can be at risk of having a child with SCT or SCD.

In the U.S., all newborns are now screened for sickle cell before leaving the hospital. If a child is diagnosed with SCT or SCD, his or her parents may wish to see a genetic counselor. Genetic counselors can help parents better understand what it means to be a carrier of the gene and what the chances of having a child with either SCD or SCT are.

References

1. American Society of Hematology. For Patients. Sickle Cell Disease. Accessed: December 11, 2019. **2.** Cleveland Clinic. Sickle Cell Anemia and Sickle Cell Trait. Accessed December 11, 2019. **3.** Centers for Disease Control and Prevention. Sickle Cell Disease (SCD). Accessed December 11, 2019. **4.** Centers for Disease Control and Prevention. Sickle Cell Disease. What is Sickle Cell Trait? Accessed December 11, 2019. **5.** Kids Health from Nemours. For Parents. Sickle Cell Disease. Accessed December 11, 2019. **6.** Kolata, Gina. Two New Drugs Help Relieve Sickle Cell Disease. But Who Will Pay? The New York Times. Dec. 7, 2019. Accessed January 20, 2020. **7.** MedlinePlus. Sickle Cell Disease. Accessed: December 11, 2019. **8.** National Heart, Lung and Blood Institute. Sickle Cell Disease. Accessed December 11, 2019. **9.** Sickle Cell Disease Association of America. Sickle Cell Disease FAQs. Accessed: December 11, 2019.

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