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Sickle Cell Disease

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Introduction

Sickle Cell Disease (SCD) is a hereditary constant disorder. Peoples with the disease turn out abnormal hemoglobin, a protein in red blood cells affix to oxygen in the lungs and carries it to all parts of the body. This irregular hemoglobin causes the red blood cells to become inflexible and sickle- cell shaped, which causes them to fix together and hunk the flow of blood and oxygen to the body. The disease results from a single mutation in the gene that codes one of the protein chains that make up the hemoglobin molecule. Hemoglobin is the main constituent of red blood cells and allows the cells to raise up oxygen from the lungs and drop it off in tissues throughout the body, from the brain to the muscles. The sickle alteration causes the red blood cells to make a tainted version of the hemoglobin that forces the red cell into a sickle shape when oxygen levels drop. The sickled red blood cells tangle together, overcrowding blood vessels throughout the body and causing severe pain and unfortunate health consequences.

Types of Sickle Cell Disease

Sickle Cell Anemia:

When the child inherits one sickle cell gene from each parents, the child have Sickle Cell Anemia.

Sickle Hemoglobin- C Disease:

Peoples with Sickle Hemoglobin-C Disease (SC) have a little different substitution in their beta globin genes that produces both hemoglobin C and hemoglobin S.

Sickle Beta-Plus Thalassemia:

Sickle Beta Thalassemia disease also hold substitutions in both beta globin genes. The harshness of the disease varies according to the amount of normal beta globin produced.

Sickle Hemoglobin-D Disease:

Hemoglobin D- Disease is a different substitution of the beta globin gene and it has been found to interrelate with the sickle hemoglobin gene.

Symptoms of sickle cell disease

1. Extreme fatigue or irritability, from anemia

2. Fussiness, in babies

3. Bedwetting, from related kidney problems

4. Jaundice

5. Swelling and pain in hands and feet

6. Frequent infections

7. Pain in the chest, back, arms, or legs

Diagnosis

A number of different treatments are available for Sickle cell disease. Sickle cell disease and sickle cell mannerism can be diagnosed with a simple blood test. The test uses blood from the blood samples which used for the other routine newborn screening tests. It can show weather a newborn baby affected with sickle cell disease or sickle cell trait. If the test shows sickle hemoglobin, a second blood test is done to confirm the diagnosis.

• Rehydration with intravenous fluids helps red blood cells go back to a normal state. The red blood cells are more likely to warp and assume the sickle shape if you're dehydration.

• Blood transfusions improve transport of oxygen and nutrients as needed. Packed red cells are removed from donated blood and given to patients.

• Supplemental oxygen is given through a mask. It makes breathing easier and improves oxygen levels in the blood.

• Pain medication is used to relieve the pain during a sickle crisis. You may need over-the-counter drugs or strong prescription pain medication like morphine.

•Hydroxyurea (Droxia, Hydrea) helps to increase production of fetal hemoglobin. It may reduce the number of blood transfusions.

Conclusion

Sickle Cell Disease (SCD) is a hereditary chronic disorder. Research is going on bone marrow transplants, gene therapy, and new medicines for sickle cell anemia. This makes us to expect that these studies will present improved treatments for sickle cell disease.

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