Sickle Cell Disease

Definition: Sickle cell disease is a disorder of the red blood cells where the cells are abnormally shaped. This disorder is passed on from parents to their children. This abnormality can result in painful episodes, serious infections, anemia, and damage to body organs. In the United States, sickle cell anemia affects mainly African Americans and Latino Americans, people whose ancestors came from Mediterranean countries or East India are also at increased risk.

Common Terms: Sickle cell anemia; sickle cell crisis.

Typical Mechanism of Onset: Usually sickle cell disease is diagnosed at birth with a blood test. The blood cells can take on an abnormal shape, distorting the shape of the red blood cell. The cells change from a normal round, doughnut shape to the elongated shape of a sickle, or the shape of a "C." Unlike normal red blood cells, which move easily through small blood vessels, sickle cells are hard and pointed. The sickle shape means that they have a tendency to get stuck in narrow blood vessels and block the flow of blood. This can cause episodes of pain and can also lead to damage of the body organs because they aren't getting enough oxygen. Sickle cells have a shorter-than-normal life span, which leads to anemia (low red blood cell count).

Common Signs and Symptoms: People with sickle cell disease may have a mild to a more severe form. Most people with sickle cell disease have some degree of anemia, and may develop one or more of the following conditions: chronic pain, enlarged spleen, recurring infections and stroke.

Common Treatment: People with sickle cell disease can lead relatively normal lives even though there are no known cures for sickle cell disease. Blood transfusions and bone marrow transplants may help in severe cases. Medicines are available to help manage the pain, whereas immunizations and daily doses of penicillin (an antibiotic) can help prevent infection. Keeping well hydrated may also help prevent episodes.

Prevention: There is little that can be done to prevent this inherited disease, but when it comes to athletics, it is advised to talk with family and allied healthcare professionals about the best options. Certain sports should be avoided due to their exhaustive/repetitive nature. Some examples of sports that are more tolerable for someone with this condition may include swimming, golf, and fencing. Participation in sports will depend on how severe the disease is.

Expectations: These effects can vary from person to person depending on the severity of sickle cell disease present. Participation in sports should be monitored closely in order to ensure an environment that is conducive to someone with this disease. It would not be uncommon to experience a higher degree of pain and discomfort. Any injuries should immediately be reported to the coach and athletic trainer.

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