

Potential Connections Between Sickle Cell Disease and Iron Deficiency Anemia

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Abstract

Sickle Cell Disease (SCD) is a genetically inherited red blood cell (RBC) disorder. A protein, Hemoglobin, is affected by a Glu-->Val polymorphism causing it to become abnormal. This causes the RBC to lose its normal morphology and forms a C-shape, resembling a sickle, also causing the RBC to become hard and sticky. Anemia is another common red blood cell disorder that results from the lack and/or dysfunction of the RBCs in the body. Iron Deficiency usually means the lack of iron but in some cases can be also caused by SCA due to the lack of Hemoglobin which helps with the transportation of iron within the RBC. Iron deficiency anemia (IDA) is when the hemoglobin that contains iron is decreased within the blood. We hypothesize that there may be a connection between SCA and Iron Deficiency Anemia. Data shows that due to the loss of Hemoglobin within SCA, Iron deficiency may cause sickling. In conclusion, data suggests a link between SCA and Iron Deficiency Anemia as reported in the literature.