TEXAS Health and Human Services | Texas Department of State Health Services

Newborn Screening ACT Sheet

[FSC] Hemoglobin SC Disease (Hb SC)

Differential Diagnosis

Hemoglobin FSC pattern on newborn screening is highly suggestive of Hemoglobin SC disease. The hemoglobins are listed in order of the amount of hemoglobin present (F>S>C). This result is different from FAS, which is consistent with sickle cell trait.

Condition Description

A red blood cell disorder characterized by the presence of hemoglobins S and C in the absence of Hb A. Individuals with Hemoglobin SC, a form of sickle cell disease, are compound heterozygotes for the hemoglobin S and hemoglobin C mutations in the beta-globin gene.

Take the Following Actions

- **Contact the family to inform them of the screening result;**
- **Consult with a pediatric hematologist (See attached list.);**
- **Perform physical exam on infant;**
- **Repeat newborn screen if second screen has not yet been done;**
- **Initiate treatment as recommended by the consultant;**
- **Educate parents/caregivers regarding the risk of sepsis, the need for urgent evaluation if fever of ≥ 101.5° F, or signs and symptoms of splenic sequestration; and**
- **Report findings to newborn screening program.**

Diagnostic Evaluation

The newborn screening program performs DNA studies to identify Hemoglobin SC alleles. Clinicians may choose to obtain further molecular diagnostic studies as indicated.

Clinical Expectations

Newborn infants are usually well. Hemolytic anemia and vaso-occlusive complications rarely develop during infancy or early childhood. Potential complications include life-threatening infection, splenic sequestration, acute chest syndrome, pain episodes, aplastic crisis, dactylitis, priapism, and stroke. Comprehensive care, including family education, immunizations, and prompt treatment of acute illness, reduces morbidity and mortality.

Additional Information

Sickle Cell Disease Association of America
Centers for Disease Control and Prevention - Sickle Cell Disease
DSHS Sickle Cell Disease
National Institute of Health: Evidence-Based Management of Sickle Cell Disease
2019 sickle cell disease guidelines by the American Society of Hematology

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