Sickle Cell Anemia

Clinical Description/Definition

- Sickle cell anemia which is also referred to as SCD (sickle cell disease) is an inherited disorder that results in hemoglobin S (Hgb S or Hb S) production. Haemoglobin S is an abnormal type of hemoglobin (a variant of hemoglobin) (American Association for Clinical Chemistry, 2017).

Pathophysiology and History of Sickle Cell Anemia

- The moment sickle cell molecules are deprived of oxygen; they undergo a process referred to as crystallization, polymerization, or gelation. The modification of the physical state of sickle hemoglobin deforms RBCs, and the result is a sickle shape (Desai & Shah, 2015).
- Initially, the distortion of the shape of RBCs is reversible upon re-oxygenation to oxygen. Still, every stage of sickling destroys the membrane and the cells ultimately amass calcium, lose water/potassium, and are their shape is irreversibly changed.

Impact of sickle cell anemia on adults to the healthcare system and nursing practice

- The most intriguing impact of the disease on adults is stigma. Persons diagnosed with sickle cell anemia have expressed stigmatization in pursuing care for their condition. Nurse perceptions lead to stigmatization and could impact patients' reaction to care seeking, sickle cell indications, and eventually patient outcomes (Jenerette, Pierre-Louis, Matthie, & Girardeau, 2015). Patients with sickle cell anemia usually pursue care for their emergencies when local remedies seem to have no solution to extreme pain they experience.

The impact of sickle cell anemia during childhood.

- ACS (acute chest syndrome) is a grave complication of sickle cell anemia that mostly occurs in early childhood. Almost 30% of people with sickle cell have at one time experienced ACS (Meier, & Miller, 2012). Another recognized critical complication of sickle cell is SCI (silent cerebral infarct). Findings have revealed that 17% of children with sickle cell had SCI. However, there is recent data that positions the percentage in the range of 35-40% (Meier, & Miller, 2012).

Impact of this disease in adults/ why adults live into adulthood with this childhood condition

- There are adults with sickle cell anemia that develop cognitive difficulties like struggling to consolidate their thoughts, learning, and decision-making. These types of problems may massively impact an adult's quality of life (NIH/National Heart, Lung and Blood Institute, 2012). Because of developments in sickle cell anemia care, individuals with the disease can live longer.

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