

Analytical extended definition essay example

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Analytical extended definition

Sickle cell anemia is a disease that affects hemoglobin in people. It mainly affects Africans and people from the Mediterranean and Middle East.

Hemoglobin is found in the red blood cells and carries oxygen throughout the body, so people suffering from the disease do not get enough oxygen in the body due to lack of hemoglobin. The disease changes the shape of the red blood cells into sickle-shape thus the origin of the word sickle cell. Normal red blood cells are flexible and have the shape of a disc while the sickle-shaped ones are shaped like a crescent. The disease is also referred to as hemoglobin S disease (HbS), SCD or sickle cell disorders.

Sickling or distortion of the red blood cells causes them to lose flexibility and shape. The sickling is caused by reduced oxygen levels, high levels of acidity and blood dehydration. The conditions occur due to body injury, dehydration or anesthesia. Symptoms do not develop in infants during the first few months because fetal hemoglobin protects the red blood cells from distortion. However, symptoms start to appear after five months of infancy.

Sickle cell is a type of anemia; low red blood cells and insufficient hemoglobin in the red blood cells present. The lower number of red blood cells in sickle cell anemia is caused by death of the sickle cells, which do not last more than twenty days. Normal red blood cells last for about one hundred and thirty days after which they die and get replaced by new ones. Sickle-shaped red blood cells do not reach maturity since they breakdown prematurely. Additionally, the sickle-cells are hard and sticky and so they can not be able to carry oxygen throughout the body.

There is a difference between sickle cell anemia and sickle cell trait. Sickle cell anemia is a disease that is usually inherited, so people suffering from this disease are born with it. They get two genes containing sickle hemoglobin from both parents. Sickle cell trait, on the other hand, means that a person does not have the disease but has its trait since he or she has one gene that causes the disease. In essence, a person with sickle cell trait inherits only one gene from one of the parents and so does not get the disease, but he can pass the gene to his children. People who have sickle cell anemia traits are known as carriers. Surprisingly, sickle cell gene makes a person to become partially resistant to malaria. Basically, carriers have an advantage over non carriers since they are protected against malaria (Platt 1994).

Sickle cell results to insufficient oxygen in the body tissues. Consequently, cells making up these tissues die; for instance, spleen is severely affected by lack of oxygen thus causing immune dysfunction in the body. Besides, insufficient oxygen in the brain leads to stroke. Chest syndrome is a life threatening disease that affects the lungs and can also be triggered by sickle cell anemia. The disease causes jaundice; yellowing of the body especially the eyes and skin. The yellowing occurs due to the rapid breakdown of the red blood cells. Since the sickle-shaped red blood cells are sticky and stiff, they stick to the blood vessels thus causing a lot of pain to the person. Furthermore, sickle cell anemia leads to high blood pressure complications. Sickle cell anemia does not have any cure but its severity can be reduced. In some cases, however, bone marrow transplants are used during the early days of the disease. They are somehow effective since normal red blood cells

are made available in the body. The process is only successful during the early stages of the disease before the vital body organs are damaged.

People suffering from sickle cell anemia should maintain a healthy diet and must include vitamin D as well as supplements of folic acid and zinc. They should avoid alcohol and smoking since they affect the blood vessels. Since they are prone to diseases, it is advisable for them to get vaccination against certain diseases such as meningitis, flu, pneumococcus and hepatitis B.

Besides; they should avoid cold temperatures, body dehydration and constricting documents (Kenny 1980).

Sickle cell anemia is diagnosed by taking a blood smear and observing under a microscope. A hemoglobin electrophoresis test can also be done since it identifies and separates hemoglobin from blood. Besides, the disease can be diagnosed before birth using amniocentesis or chronic villus sampling (Platt 1994). DNA test is later done on the samples so as to identify the fetal cells.

In conclusion, the symptoms of sickle cell anemia are directly associated with distortion of the red blood cells. Distorted cells; for instance, affect blood flow in the body and so affect other vital organs due to lack of oxygen, and this causes other diseases.

References

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