Mashhad University of Medical Sciences

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Nutrition In Thalassemia

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Alpha Thalassemia

Four genes are involved in making the alpha hemoglobin chain. Each person receives two forms from each of their parents. In case of inheritance:

A mutated gene will show no signs or symptoms of thalassemia, but a person carries the disease and can pass it on to their children.

Two mutated genes will cause mild thalassemia symptoms in the individual. This condition may be called alpha thalassemia minor.

The three mutated genes, the individual signs, and symptoms will be moderate to severe.

Inheritance of four mutated genes is rare and usually leads to stillbirth. Babies born with this condition often die shortly after birth or need a blood transfusion for life. In rare cases, a baby born with the disease can be treated with stem cell injections and transplants.

Beta Thalassemia (Minor And Major)

Two genes are involved in the synthesis of the hemoglobin beta chain, each of which is inherited from one parent. In case of inheritance:

With a mutated gene, the person will have mild signs and symptoms. This condition is called thalassemia minor or beta-thalassemia.

With two mutated genes, the incidence of signs and symptoms in a person will be moderate to severe. This condition is called thalassemia major or gypsy anemia.

Babies with two defective beta hemoglobin genes are healthy at birth but show signs and symptoms in the first two years of life.

A milder form called intermediate thalassemia can also be caused by two mutated genes.

Thalassemia Diet

A low-fat, plant-based diet is the best option for most people, including people with thalassemia. However, if iron levels are high in the blood, it may be necessary to limit iron-rich foods. Fish and meat are high in iron, so they may need to be limited in their diets. You may also want to avoid fortified cereals, such as bread and fruit juices. They have high levels of iron that can cause a deficiency of folic acid (folate). Vitamin B, found naturally in foods such as dark leafy vegetables and legumes, is essential for counteracting the effects of high iron levels and protecting red blood cells. If you do not get enough folic acid in your diet, your doctor may recommend taking one milligram daily. No diet can cure thalassemia, but being careful about eating the right foods can help.

Nutrition In Thalassemia

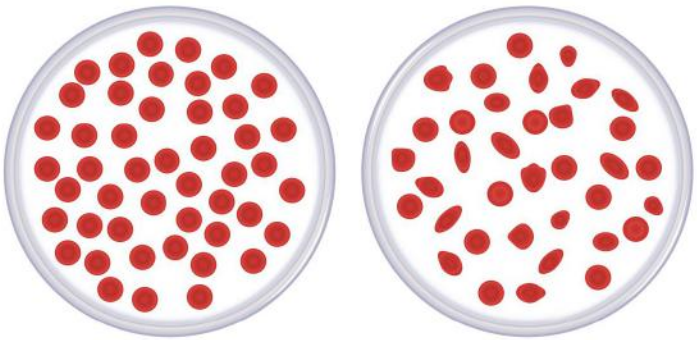
Thalassemia is an inherited blood disorder that lowers the body's hemoglobin compared to normal. Hemoglobin enables red blood cells to carry oxygen. Thalassemia can cause anemia and fatigue.The patient does not need treatment if he/she has mild thalassemia, but more severe cases may require regular blood transfusions. Patients can take steps to combat fatigue, such as choosing a healthy diet and exercising regularly. There are several types of thalassemia. Signs and symptoms that occur depend on the type and severity of the patient's condition. The signs and symptoms of thalassemia can include the following:

- Dark urine
- Weakness
- Pale or yellowish skin
- Facial bone deformities
- Decreased growth
- Swelling of the abdomen
- Fatigue

Some babies show signs and symptoms of thalassemia at birth; Others show up during the first two years of life. In some people, only one hemoglobin gene is affected and they

What Causes Thalassemia?

Thalassemia is caused by DNA mutations in cells that make hemoglobin, a substance in red blood cells that carries oxygen throughout the body.



Normal blood Thalassemia

Thalassemia-related mutations are passed from parents to children.

Hemoglobin molecules are made up of chains called alpha and beta chains and can be affected by mutations. In thalassemia, the production of alpha or beta chains decreases, leading to alpha or beta-thalassemia.
In alpha thalassemia, the severity of thalassemia depends on the number of gene mutations that are inherited from the parents. The more mutated the gene, the more severe the thalassemia. In beta-thalassemia, the severity of thalassemia depends on which part of the hemoglobin molecule is affected.