NUTRITION UPDATE

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G6PD DEFICIENCY

G6PD is an enzyme which helps the Red Blood Cells (RBCs) function normally. It is one of the many enzymes that help the body generate energy by processing carbohydrates. It also protects the red blood cells from potentially harmful by-products produced during infections or due to medications.

G6PD deficiency is a genetic condition which affects the production of RBCs. Also known as “favism”, since G6PD deficient individuals are allergic to fava beans, it affects an estimated 400 million people worldwide, with males more likely to be affected, compared to females.

WHAT HAPPENS IN G6PD DEFICIENCY?

In G6PD deficient patients, either the enzyme is not produced enough or does not function well. Two major problems associated with G6PD deficiency are hemolytic anemia and prolonged neonatal jaundice.

Hemolytic anemia occurs when production of new RBCs in bone marrow is not enough to compensate for the body loss.

Prolonged jaundice due to G6PD deficiency is a medical condition in neonates, which makes them more prone to severe neurological complications.

SYMPTOMS OF G6PD DEFICIENCY:

- Weak or rapid pulse
- Enlarged spleen
- Heavy, fast breathing
- Dark, yellow-orange urine
- Sudden rise of body temperature and yellow coloring of skin and mucous membrane
- Fatigue, pallor and general deterioration of physical conditions

Symptoms can be triggered by the use of certain drugs such as painkillers and fever-reducing drugs, antibiotics and antimalarial drugs.

ROLE OF NUTRITION IN G6PD DEFICIENCY

The diet should focus on nutrients required to prohibit free radicals from damaging the red blood cells. Eating antioxidants with plenty of suitable fats and chewing fewer refined carbohydrates can help in minimizing risks.

- The diet should be rich in foods containing antioxidants. These include tomatoes, berries, pomegranates, apples, oranges, grapes, dates, spinach, sunflower seeds, walnuts, apricots and prunes.
- Increase use of whole-grains like oats, millets and barley to get enough complex carbohydrates as prevalence of diabetes is high in G6PD individuals.
- Vitamins should be consumed from diet as much as possible. A balanced diet, rich in B vitamins and folic acid should be consumed instead of additional supplements.

Following are the foods that should be avoided in G6PD deficiency:

- Soya products
- Blueberries and foods containing them
- Fava beans and all legumes and flour containing fava beans must be avoided
- Tonic water (containing quinine, a contraindicated drug in G6PD)
- Artificial blue food color and artificial ascorbic acid in foods or supplements can cause hemolysis in large doses
- Breath mints, tooth paste, mouthwash and candies containing menthol should be avoided
- Vitamin K supplements have been reported to cause adverse reactions like hemolytic anemia
- Iron supplements without checking iron levels and without physician recommendations

References:

http://g6pddeficiency.org/wp/living-with-g6pd-deficiency/g6pd-deficiency-foods-to-avoid-list/#.WkpkrFWWZdj

http://kidshealth.org/en/parents/g6pd.html

https://emedicine.medscape.com/article/200390-overview

https://health.mil/News/Articles/2017/06/12/Eat-a-rainbow-of-colorful-produce