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Letter to Editor

Celiac Disease

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Abstract

Many healthy individuals may have celiac disease but they are not aware of it, or may have a disease situation that may be related to celiac disease. Celiac disease also known as gluten-sensitive enteropathy is characterized by intestinal mucosal damage and malabsorption from dietary intake of wheat, rye or barley. Symptoms may appear with introduction of cereal in the first 3 years of life. A second peak in symptoms occurs in adults during the third or forth decade and even as late as eight decade of life. The prevalence of this disease is approximately 1 in 250 adults. The disease is more prevalent in Ireland as high as 1 in 120 adults. The disorder occurs in Arab, Hispanics, Israeli Jews, Iranian and European but is rare in Chinese and African American.

To have celiac disease the patient should have the celiac disease genetic markers as human leukocyte antigen (HLA) DQ 2 and (HLA) DQ 8. Patient with celiac disease may have 95 per cent for DQ 2 and the rest is by DQ 8. Someone may have the genetic marker and never develops the disease. In general 50 percent with markers may develop celiac disease. To develop the disease the gene needs to become activated. This may happen with a viral or bacterial infection, a surgery, delivery, accident, or psychological stress. After activation of gene cause the tight junction to opens with the release of Zonulin. This results in passage of gluten through the tight junction and formation of multiple antibodies and autoimmune disease. This also allows entrance of other proteins and development of multiple food allergies. As a result is shortening, flattening of intestinal villi resulting in food, vitamins and minerals malabsorption.

Keywords: Celiac Disease, Diagnose, Presentation.

Presentation

Patients with celiac disease may present symptoms such as fatigue, weight loss, or pallor. They may have 3 to 4 loose bad smelling bowel movements per day. In some individuals they may have constipation and diarrhea, similar to irritable bowel. They have excess gas, abdominal cramps and pain. Others present with anorexia and anemia due to iron deficiency. The first symptoms of celiac disease may be anemia of Iron deficiency. These patients do not improve with iron supplementations. They have also folic acid deficiency and in case of sever celiac disease with vitamin B12 deficiency.

Children may have poor weight gain, failure to thrive and abdominal pain. All patients with celiac disease have lactose intolerance because of secondary lactase deficiency.

Ladies may present with amenorrhea, delayed in menstruation (menarche),

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infertility and repeated miscarriage. The cause of infertility may be related to nutritional deficiency. Other factors such as vitamins, minerals and specially iron deficiency. The cause of miscarriage is related to placental insufficiency due to transglutaminase attachment to the placenta. Males may be infertile with celiac disease. It is due to anemia, nutritional deficiency, abnormal shape, motility and decreased sperms count. Hair loss in not uncommon. In some individuals eat more than they need, and may be overweight. Patients with celiac disease have fat soluble vitamin D deficiency causing bone disease, vitamin K deficiency causing bleeding problems such as nose bleeding. Vitamin A deficiency may lead to night blindness.

Psychiatric findings such as mood changes, irritability, and depression. The cause of psychiatric presentation is not known. Skin lesions as dermatitis herpetiformis is seen in 5% of patients on elbows, knees, and rash on the face, head, neck, and trunk. If any time the physician finds any of the above symptoms on his patient should be tested for celiac disease and to consult with Gastroenterologist for intestinal biopsy for confirmation.

Who is at risk to develop celiac disease?

Patient with type 1 diabetes mellitus. Patients with a congenital disorder such as Down's syndrome or Turner syndrome. Patients with autoimmune diseases such as Autoimmune Thyroid disease, Rheumatoid Arthritis, Lupus and Autoimmune immunoglobulin A (IgA) deficiency.

What is Celiac Disease Iceberg?

Only about 50% of patients with celiac disease have symptoms of it. This is like the tip of an iceberg above water. Others have the disease but do not have any symptom of it. This is like the part of iceberg that is under water and is not seen. The parents and siblings of a child with celiac disease should be tested for celiac disease, because they may have the disease but are asymptomatic.

How to Diagnose Celiac Disease?

By antibodies that appear in the blood. They are anti gliadin antibodies (AGA), anti-tissue transglutaminase antibodies (IgA TTGA, anti endomysium antibodies (IgA EMA) Deaminated Gliadin Peptide Antibodies (DPG-AGA). All patients should have total serum immunoglobulin IGA test. If a patient has IGA deficiency should be tested with above tests with IGG anti gliadin. If the test is positive the patient should have endoscopy for small bowel biopsy. Endoscopy shows flattening, decrease intestinal folds, aphtus lesions or scalloping. Histology shows flat mucosa, loss of intestinal villi with increased intraepithelial lymphocytes.

What are the Genetic Markers?

Another way to know if someone may develop celiac disease is a genetic test on white blood cells called HLA testing. One of them is DQ2 found in 95% of celiac patients and DQ8 in remaining patients. Negative DQ2 and DQ exclude the diagnosis of celiac disease in 99% of cases. This means that patient will not develop celiac if the genetic marker is negative. If the genetic markers are positive, the patient has a good chance to develop the disease. Factors that may trigger the gene to become active and patient become symptomatic are.

Infections, such as rotavirus induced diarrhea in children, bacterial infection a surgery or a trauma as mentioned above.

What is the Treatment of Celiac Disease?

Celiac disease is the only autoimmune disease that goes under control with diet free of gluten. All gluten containing foods should be restricted. Patient should avoid wheat, rye and barley. Usually a dietitian consultation is needed to explain the diet not allowed. Gluten free diet should be

considered for the whole life. In the first six months the patient should restrict the milk till the intestinal villi are back to normal. This reduces gas, distention and abdominal pain due to lactose intolerance. They can use potato, rice and soy. For details about food allowed and not allowed see celiac disease nutrition guide at www.eatright.org.

Celiac Disease Drug in Development

The researchers are trying to find a way that patients with celiac disease be able to eat wheat without being affected by gluten side effects.

1. An enzyme designed to break down the Gluten protein.
2. Vaccine to help desensitize the patient to Gluten.
3. A medication intended to help prevent leaky gut.
4. A medication that bands to the Gluten molecule in an effort to escort it safely from the body.

What happens if Patient with Celiac continues to eat Gluten?

It has been noted that uncontrolled celiac disease may develop lymphoma of intestine.

Some may develop carcinoma of mouth, pharynx, and esophagus. Gluten restriction remarkably reduces this condition.

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