CELIAC DISEASE IN CHILDREN WITH TYPE I DIABETES IN SOUTHERN CALIFORNIA

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Background: Celiac disease (CD) is an autoimmune enteropathy that occurs in genetically susceptible individuals who ingest gluten. CD is common in Europe and in patients with other known autoimmune disorders. However, it is perceived as rare in the USA, especially among non-Caucasians.

The aim of this study was to screen for celiac disease in children with type I diabetes seen in the endocrinology clinic at Childrens Hospital Los Angeles.

Methods: Informed consent/assent was obtained from children and their families, and a questionnaire was used to collect data on medical history, symptoms, diet and family history. Serum antigliadin IgG and IgA (AGA) and anti-tissue transglutaminase IgG and IgA (htTG) were measured by ELISA. IgA antiendomysium (AEA) antibody was detected by indirect immunofluorescence using human umbilical cord vein or monkey esophagus as substrate. Total IgA was measured on those patients who were only AGA IgG +. Small bowel biopsy via endoscopy was recommended to confirm the diagnosis in those patients who were AEA or htTG+, or AGA IgG + with total IgA deficiency.

Results: Out of the 101 subjects enrolled, 13 (8%) had serology consistent with CD and were recommended for biopsy. Only half of these children (7) were Caucasian, the other represented ethnicities including Latino (3- all Mexican), Persian (1), ½ Persian ½ Caucasian (1) and ½ Native American ½ Caucasian. Reported symptoms included abdominal pain (5), constipation (3), growth failure (2), diarrhea (2), fatigue (2), joint pain (2), bloating (1), gaseousness (1), mouth ulcers (1) and poor weight gain (1). Five (38%) were completely asymptomatic. All of these 13 subjects were on a gluten-containing diet, and none reported lactose intolerance. Family histories were positive for diabetes type I (4), thyroid disease (4), stomach or duodenal ulcers (2), osteoporosis (2), colon cancer (2), arthritis, depression and Crohn's disease (1 each). None had a family history of CD. Of the 8 who had biopsies, 7 were consistent with CD and one was indeterminate. In the child whose biopsies were indeterminate, staining for CD3 +-lymphocytes was able to confirm the diagnosis. Incidentally, two of the children had clinical and histologic gastritis, +CLO test, and biopsies consistent with Helicobacter pylori infection.

Conclusions: CD is common in children with type I diabetes in Southern California. Patients with type I diabetes should be screened for CD, regardless of ethnic background, family history of CD, or the presence or absence of gastrointestinal symptomatology. CD3 staining may be useful in clarifying indeterminate biopsies. Children with type I diabetes and CD may be at higher risk for H. pylori infections.