Idiopathic hypoparathyroidism and celiac disease in two patients with previous history of cataract

RAMAZAN SARI, BULENT YILDIRIM, ALPER SEVINÇ, SULEYMAN BUYUKBERBER

Inonu University, School of Medicine, Departments of Internal Medicine and *Gastroenterology, Turgut Ozal Medical Center, 44300 Malatya, Turkey

We report two patients with idiopathic hypoparathyroidism and celiac disease. Both had undergone surgery for cataract previously. The patients presented with tetany in the absence of gastrointestinal complaints. Investigations showed severe hypocalcemia, hypoparathyroidism, flattening of duodenal villi histologically, and diffuse cerebral and basal ganglia calcifications on CT scan. After a gluten-free diet with calcium supplementation, the clinical situation and biochemical values improved. [Indian J Gastroenterol 2000;19:31-32]

Key word: Tetany

Malabsorption-related gastrointestinal or extraintestinal symptoms can both be seen in patients with celiac disease; in some patients, the extraintestinal symptoms may be more prominent. Hypocalcemia in these patients may be due to defect in vitamin D absorption or intestinal transport or absorption of calcium; occasionally, a coincidental idiopathic hypoparathyroidism can also be the cause of low serum calcium levels. In patients with late diagnosis of celiac disease with idiopathic hypoparathyroidism, calcifications in basal ganglia, besides cataract, may occur.1,2

Case Reports

Case 1

A 32-year-old woman was admitted to the emergency room with tetany. She had undergone surgery for cataract four years ago, and had received intravenous calcium supplementation prior to admission. Physical examination revealed that she was dehydrated. Chvostek’s and Trousseau’s signs were positive. Her biochemical values were: serum calcium 2.6 mg/dL, phosphorous 6.0 mg/dL, blood urea nitrogen 54 mg/dL, lactate dehydrogenase 638 U/L, proteins 3.2 g/dL, albumin 1.1 g/dL, parathyroid hormone 5.0 pg/mL. Other biochemical parameters including immunoglobulin levels, tumor markers, folate and vitamin B12 levels were within normal limits. Hepatitis B and C markers and ANA were also negative. Blood count revealed hemoglobin 10.2 g/dL, white blood cell 8500/mm³, platelet count 278,000/mm³, mean corpuscular volume 59 fl, and mean corpuscular hemoglobin 18 pg. Serum iron levels were 42 pg/dL, transferrin 465 mg/dL, and ferritin 32 ng/dL. She had had a history of iron-deficiency anemia which had not responded to oral iron supplementation. CT scan of the abdomen and thorax were normal, besides scintigraphy of parathyroid glands and ultrasonography of thyroid glands. CT scan of the cranium showed calcifications in the cerebrum and basal ganglia. Endoscopy showed no abnormality in the small intestine; biopsy of the duodenum revealed subtotal atrophy, flattening and loss of villi. Antigliadin antibody IgA was 18 U (normal 0-10) and antigliadin antibody IgG was 31 U (normal 0-24).

She was placed on a gluten-free diet with calcium supplementation. The decubitus ulcer improved in two weeks’ time. After six months, her clinical, biochemical, hematological and histological findings in the duodenum were normal; calcifications in the basal ganglia and cerebrum persisted.

Case 2

A 24-year-old woman was admitted to the emergency room with tetany. She had had diarrhea episodes starting in childhood that continued until 6 months before admission. She had undergone surgery for cataract six years ago. She was bedridden and had developed a decubitus ulcer in the presacral area. She had received intravenous calcium prior to admission. Physical examination revealed that she was dehydrated; there was thinning of fat and muscles. Chvostek’s and Trousseau’s signs were positive. Examination of the presacral area revealed a 5 cm x 3 cm decubitus ulcer.

Her biochemical values were: serum calcium 3.1 mg/dL, phosphorous 6.0 mg/dL, blood urea nitrogen 45 mg/dL, lactate dehydrogenase 938 U/L, proteins 3.4 g/dL, albumin 1.1 g/dL, parathyroid hormone 2.6 pg/mL (normal 12-72). Other biochemical parameters including immunoglobulin levels, tumor markers, folate and vitamin B12 levels were within normal limits. Markers for hepatitis B and C and ANA were also negative. Blood count revealed hemoglobin 8.2 g/dL, white blood cell 5500/mm³, platelet count 478,000/mm³, mean corpuscular volume 56 fl, and mean corpuscular hemoglobin value 16 pg. Serum iron level was 22 pg/dL, transferrin 508 mg/dL, and ferritin 12 ng/dL. CT scans of the abdomen and thorax were normal, besides scintigraphy of parathyroid glands and ultrasonography of thyroid glands. CT scan of the cranium showed calcifications in the cerebrum and basal ganglia. Endoscopy showed no abnormality in the small intestine; biopsy of the duodenum revealed subtotal atrophy, flattening and loss of villi. Antigliadin antibody IgA was 16 U and antigliadin antibody IgG was 34 U.

She was placed on a gluten-free diet with calcium and iron supplementation. Six months later, she had clinical, biochemical and hematological improvement, and histological improvement of the duodenum was observed.

Discussion

Extraintestinal symptoms like anemia, hypocalcemia-induced tetany, cataract and calcification of basal ganglia may occur prior to gastrointestinal symptoms in patients...
with celiac disease. Our patients too had predominantly extraintestinal manifestations. Iron-deficiency anemia can be the sole manifestation of celiac disease.

Metsue et al detected coincidental hypoparathyroidism with celiac disease. A gluten-free diet was reported to improve the features of both celiac disease and hypoparathyroidism. Catalda et al described a patient with hypocalcemic tetany of chronic hypoparathyroidism with celiac disease. Popke et al reported a woman with recurrent tetany as the initial symptom of celiac disease. Our two patients with coincidental hypoparathyroidism and celiac disease were among 17 patients with celiac disease seen during this period of 3 years.

Isolated calcification in the basal ganglia or diffused body calcification may be seen in patients with hypoparathyroidism. Huang et al reported 32 cases with hypocalcemic cataract. Cano Ruiz et al reported three cases of celiac disease with spontaneous tetany. Wortsman et al described a case of idiopathic hypoparathyroidism co-existing with celiac disease in whom antibodies against endomysium, reticulin, and gliadin antigens decreased to undetectable levels after the patient was placed on a gluten-free diet.

The pathogenesis of celiac disease is unclear. Genetic and autoimmune mechanisms are thought to play a role. Type 1 diabetes mellitus, Sjogren’s syndrome, Addison disease, and autoimmune thyroid diseases are seen more often with celiac disease, which suggests an autoimmune mechanism.

In conclusion, we report two patients with concomitant hypoparathyroidism and celiac disease. We believe there is an association between the two conditions rather than mere co-existence.

References