

Duodenal villous atrophy in an adult patient with systemic lupus erythematosus: a diagnostic challenge

Sirs,

We describe a case of systemic lupus erythematosus (SLE) that presented severe diarrhoea, malnutrition, villous atrophy and microscopic colitis. Coeliac disease (CD) was diagnosed. Refractoriness to gluten-free diet led to the correct diagnosis of autoimmune enteropathy (AE). A review of literature and the differential diagnosis are discussed.

A 45-year-old Brazilian woman presented transverse myelitis in 1992; an additional investigation diagnosed SLE. Fifteen years later she presented with severe watery diarrhoea and generalised oedema. Laboratory test revealed hypoalbuminemia and proteinuria was absent. Stools were negative for ova, parasites, leucocytes and blood. Fat balance test revealed an excretion of 11.2g of fat/day. IgA anti-tissue transglutaminase antibodies were negative.

Endoscopic evaluation of the duodenum demonstrated moderate loss of folds. Biopsy showed severe villous blunting, intense inflammatory infiltration of the lamina propria and crypt hyperplasia. A colonoscopy was also performed, colonic biopsies presented architectural changes compatible with microscopic colitis. A gluten-free diet was started, though anti-tissue transglutaminase test had been negative. The symptoms remained despite strict adherence to this diet, so the patient refused to go on with the diet. A review of the duodenal biopsy was performed, but neither epithelial lymphocytosis nor subepithelial collagen band were found. The presence of multiple crypt apoptotic bodies was identified. Other causes of villous atrophy were excluded and the diagnosis of AE was made. A prompt remission of diarrhoea was achieved with intravenous cyclophosphamide pulse.

Gastrointestinal manifestations are common in patients with SLE. However cases of villous atrophy are rare (1).

CD is an autoimmune gluten sensitive enteropathy, whose symptoms improve with gluten-free diet. Characteristic histological lesions in the small bowel are present, i.e. villous atrophy, crypts hyperplastic and elevated numbers of intraepithelial lymphocytes (IELs) (2). This increased of IELs can also be observed in the gastric and colonic mucosa (3).

Diarrhoea, malabsorption and weight loss are the classic CD symptoms. Several reports have described the presence of coeliac disease in SLE patients (4).

Anti-tissue transglutaminase antibodies are used for CD diagnosis. Both sensitivity and specificity exceeded 95% in most studies (5).

In this case, the anti-transglutaminase antibodies were negative. Despite these findings, we decided to start a gluten-free diet, but without improvement in clinical status. A review of the small bowel biopsy demonstrated a reduced number of IELs in surface epithelium, so both the diagnosis of CD and refractory coeliac sprue have become improbable.

AE is a rare disorder, which can be underlying autoimmune diseases. It is characterised by severe diarrhoea, malabsorption and immune mediated damage to the intestinal mucosa non-responsive to gluten restriction, generally occurring in infants and young children. It seems that this condition is even rarer in adult subjects (6). Akram *et al.* proposed criteria for its diagnosis (7) that are: chronic diarrhoea for more than six weeks in duration; clinical signs of malabsorption; specific histology on small bowel biopsy; exclusion of additional secondary diagnoses causing villous atrophy; positive anti-enterocyte or anti-goblet cell antibody serology. However only the first four criteria are required for the diagnosis, since these antibodies presence is not pathognomonic, they can be identified in other gastrointestinal disease and their absence does not exclude the AE diagnosis (8).

The histological features in AE have some analogies with coeliac disease showing severe villous atrophy, although with relative paucity of epithelial lymphocytes. It appears to involve mainly, but not exclusively the small bowel (6).

Autoimmune disorders have been associated with AE. However this enteropathy has not been described in association with SLE in adult patients. Its diagnosis may be underestimated in these patients due to immunosuppressive treatment.

The AE treatment is not established. Some patients have responded to different immunosuppressive therapies, including cyclophosphamide (9). Recently, biological agents have been utilised with beneficial effects (10).

Our patient fulfilled the criteria for diagnosis of autoimmune enteropathy, although the anti-enterocytes and anti-goblet cells autoantibodies had not been screened. This

enteropathy should be considered in differential diagnosis of malabsorption and small bowel villous atrophy in patients with autoimmune diseases in order to avoid introducing unnecessary diets that could delay proper treatment.

V.L. RIBEIRO CABRAL, MD, PhD¹

L. MEIRELLES, MD, PhD²

S.L. LORENA, MD, PhD¹

L.T.L. COSTALLAT, MD, PhD³

S. APPENZELLER, MD, PhD³

¹Division of Gastroenterology, Department of Internal Medicine, ²Division of Gastroenterology, Department of Pathology, ³Division of Rheumatology, Department of Internal Medicine, Faculty of Medical Science, State University of Campinas, São Paulo, Brazil.

Please address correspondence and reprint requests to: Virginia Lúcia Ribeiro Cabral, Rua Helder Reis Junior, 231 CEP: 13106-256, Sousas, Campinas, São Paulo, Brasil. E-mail: virginiacabral@terra.com.br

Competing interests: none declared.

References

1. TIAN XP, ZHANG X: Gastrointestinal involvement in systemic lupus erythematosus: insight into pathogenesis, diagnosis and treatment. *World J Gastroenterol* 2010; 16: 2971-77.
2. FREEMAN HJ, CHOPRA A, CLANDININ MT, THOMSON A BR: Recent advances in celiac disease. *W J Gastroenterol* 2011; 17: 2259-72.
3. GREEN PH, YANG J, CHENG J, LEE AR, HARPER JW, BHAGAT G: An association between microscopic colitis and celiac disease. *Clin Gastroenterol Hepatol* 2009; 7: 1210-6.
4. FREEMAN HJ: Adult celiac disease followed by onset of systemic lupus erythematosus. *J Clin Gastroenterol* 2008; 42: 252-5.
5. LEFFER DA, SCHUPPAN D: Update on serologic testing in celiac disease. *Am J Gastroenterol* 2010; 105: 2520-4.
6. FREEMAN HJ: Adult autoimmune enteropathy. *World J Gastroenterol* 2008; 14: 1156-8.
7. AKRAM S, MURRAY JA, PARDI DS *et al.*: Adult autoimmune enteropathy: Mayo Clinic Rochester experience. *Clin Gastroenterol Hepatol* 2007; 5: 1282-90.
8. BIAGI F, BIANCHI PI, TROTTA L, CORAZZA GR: Anti-goblet cell antibodies for the diagnosis of Autoimmune Enteropathy. *Am J Gastroenterol* 2009; 104: 3112 (letter).
9. OLIVA-HEMKER MM, LOEB DM, ABRAHAM SC, LEDERMANN HM: Remission of severe autoimmune enteropathy after treatment with high-dose cyclophosphamide. *J Pediatr Gastroenterol Nutr* 2003; 36: 639-43.
10. VON HAHN T, STOPIK D, KOCH M, WIEDENMANN B, DIGNASS A: Management of severe refractory adult autoimmune enteropathy with infliximab and tralostim. *Digestion* 2005; 71: 141-5.