

Coincidence of celiac disease with sarcina infection

A 16-year-old boy was admitted to our hospital with diarrhea, nausea, and abdominal pain for a month, was found positive for anti-tissue transglutaminase IgA antibodies. Upper gastrointestinal (GI) endoscopy showed eosophagitis, pangastritis, scalloping of duodenal folds (Figure 1) and food residue in stomach. Histopathology revealed subtotal villous atrophy, crypt hyperplasia and increased intraepithelial lymphocytes in duodenum, compatible with celiac disease. Antral biopsy showed mild to moderately heavy lymphoplasmacytic cell infiltration in lamina propria. Active inflammation, dysplasia or presence of *Helicobacter pylori* was not observed. The luminal mucosal surface epithelium contained Gram-positive staining spherical organisms in tetrads and octets which had the morphology of *Sarcina* (Figure 2). The patient showed symptomatic improvement following treated with only a gluten free diet. The patient made a full clinical recovery and he continued to be free of gastrointestinal symptoms. We didn't give any treatment specific for *Sarcina*. *Sarcina* organisms are gram-positive, non-motile, anaerobe, 1.8 to 3 micrometers in diameter, which occur in tetrads or packets of 8 or more (1). They are mimicking *Micrococcus* species on light microscopy but distinct such as size and pattern of clustering. *Sarcina* organisms may be associated with emphysematous gastritis, gastric ulcer, peritonitis following gastric perforation, and also functional gastric outlet obstruction as our patient. Antibiotic and anti-ulcer therapy treatment for *Sarcina* in a clinically stable patient is unclear (2). We present this case as being the first case of *Sarcina* infection associated with celiac disease in literature.

Conflict of Interest: No conflict of interest was declared by the authors.

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Figure 1. Upper gastrointestinal endoscopy showed scalloping of duodenal folds.

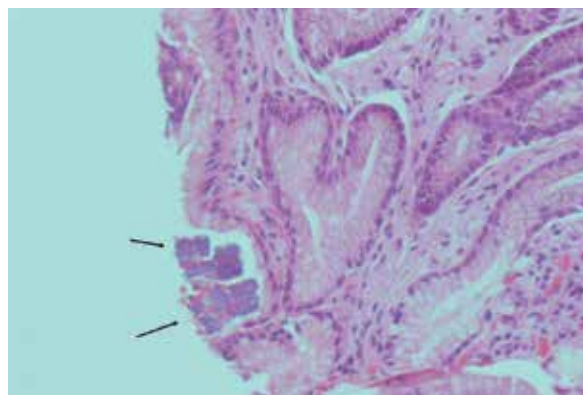


Figure 2. The luminal mucosal surface epithelium contained Gram-positive staining spherical organisms in tetrads and octets which had the morphology of *Sarcina* (Hematoxylin and eosin).

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