Falsely positive anti-gliadin antibodies in a non-celiac patient with multiple sclerosis

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INTRODUCTION

- Celiac disease (CD) is a small bowel autoimmune enteropathy mediated by antibodies against dietary gluten.
- We present a case of a patient with multiple sclerosis with persistently positive IgA antibodies against deamidated gliadin peptide (DGP) who was ultimately demonstrated to not have CD after decades of gluten avoidance.

CASE DESCRIPTION

- A 64-year-old male with a history of multiple sclerosis (MS) and a family history of celiac disease in his mother presented to clinic to clarify his CD diagnosis.
- On prior testing he had positive DGP IgA (39 U) and weakly positive tissue transglutaminase (tTG) IgG serologies (8 U/mL, upper limit of normal 5 U/mL). However, prior esophagogastroduodenoscopy (EGD) was reportedly unremarkable. Based on serologies, he had been told he had CD and followed a gluten-free diet for years.
- On presentation, he denied bloating, diarrhea, abdominal pain, or weight changes. Labs were notable for an elevated DGP IgA level of 38 U with normal DGP IgG, tTG IgA, and tTG IgG serologies.
- On EGD while on a gluten free diet, the duodenum appeared normal, and pathology showed normal duodenal mucosa without villous atrophy (VA).
- Studies were repeated after several months of dietary gluten reintroduction. DGP IgA remained persistently elevated at 37 U, DGP IgG and tTG IgA remained within normal limits, and tTG IgG was borderline at 6 U/mL, of questionable significance. Genotyping was positive for HLA-DQ8 but negative for HLA-DQ2. Repeat EGD after gluten reintroduction demonstrated a normal-appearing duodenum (Figure 1) without evidence of VA on pathology (Figure 2).
- The patient was informed that he did not have celiac disease.

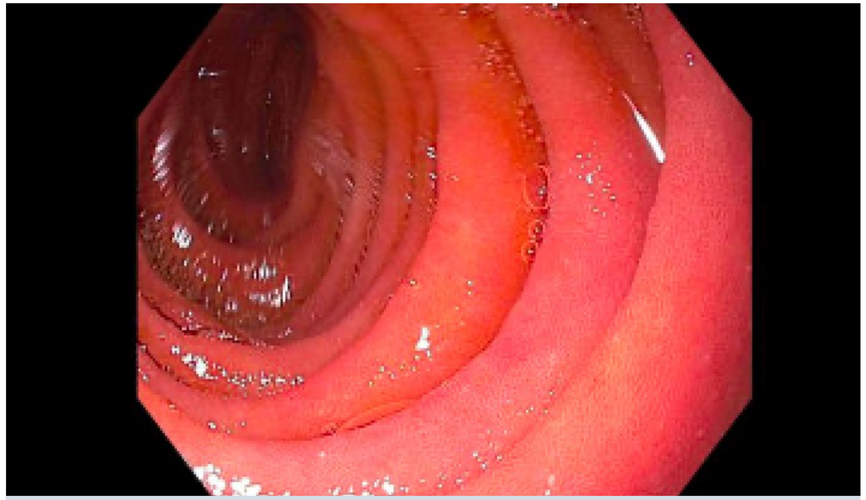

Figure 1. Normal appearing duodenal mucosa on endoscopy

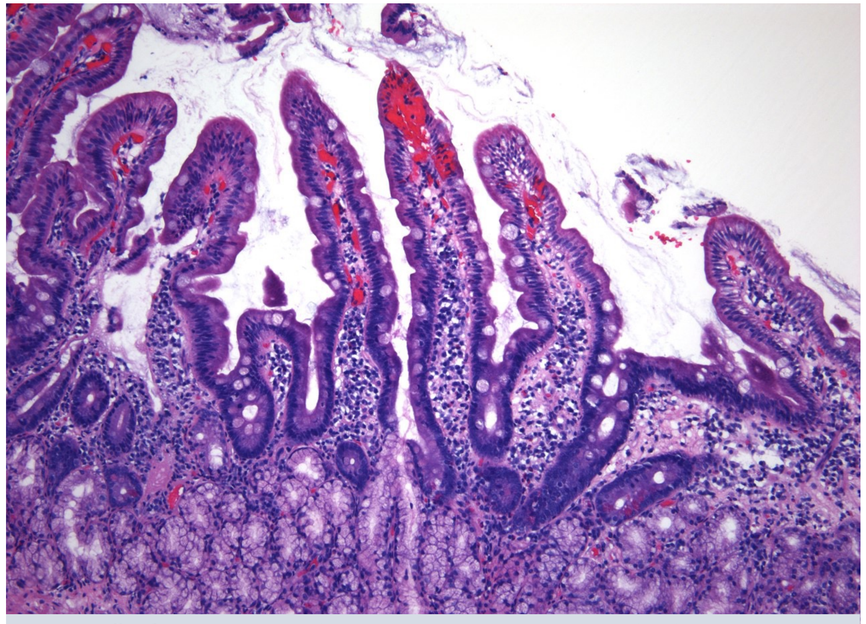

Figure 2. Duodenum with preserved villous architecture and no intraepithelial lymphocytes.

DISCUSSION

- Serologies in CD can be impacted by autoimmune disease.
- This patient had MS-related immunogenicity to DGP in the absence of CD.
- Several studies have noted that patients with MS without CD often have higher titers of DGP IgA antibodies, which may be due to antibody cross reactivity or even increased gut permeability to DGP.
- When serology is discordant, as in this case, duodenal biopsy should be performed, ideally after a gluten challenge. If repeat biopsy and tTG IgA serologies remain negative after gluten challenge, CD is highly unlikely. However, these patients should be closely followed for development of symptoms of CD, as latent CD is also possible.

REFERENCES

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