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All tTG positive patient do not have celiac disease

Pankaj Vohra

Kalyan Ray Parashette

Rajmohan Dharmaraj

Angela Deubel

Richardo Castillo

See next page for additional authors

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Authors

Pankaj Vohra, Kalyan Ray Parashette, Rajmohan Dharmaraj, Angela Deubel, Richardo Castillo, and Jacqueline Fridge

INTRODUCTION

Tissue transglutaminase antibody IgA level (tTG) is an excellent screening test for celiac disease in the presence of adequate IgA levels. Most labs while screening for Celiac disease (CD) will do the IgA levels automatically. However the serological test is not a diagnostic test.

STUDY OBJECTIVE

Review of all false positive tTG antibody results over the last one year.

Retrospective study

LIMITATIONS

Limited follow up time/data

RESULTS

There were 5 cases over the last one year in whom the tTG was positive in low titres in patients who did not have celiac disease.

13 years old male with history of difficult to treat chronic constipation and encopresis.

As a part of work up for difficult to treat constipation he had a celiac serology that came back positive 2+ times ULN (Limit upto 4 and his value was 9). He was advised EGD but he refused and one year later he returned for follow up and his celiac serology was repeated and found to be negative while consuming gluten. Constipation was functional in origin and had gotten better with good growth over the interval period.

8 years old girl with recurrent central abdominal pain for 4 months.

Pain mostly post prandial, spicy food made it worse. There was h/o of nocturnal pain. The pain was often severe enough for her to cry and she had to be taken to the ER on 3 occasions. She also had constipation. She continued to worsen with her pain despite resolution of constipation. Her tTG was found to be elevated to 38 (normal <15). She underwent EGD and was found to have duodenal erosions. She is doing much better on anti-acid therapy.

4 years old boy with h/o abdominal pain and non-bloody diarrhea for the previous 6 months but growing well.

Has a positive family history of Celiac disease and his serology showed a rising trend from 28 to 64 over a 2 months period. EGD showed few erosions in the duodenal bulb and the biopsy was consistent with active duodenitis not suggestive of celiac disease. He is better on anti-acid therapy. He may be a potential celiac. He continues to be on gluten.

10 years old with JIA with intermittent abdominal pain with low TTG IgA antibody titer.

EGD done to confirm the diagnosis as two autoimmune diseases often go together. Her TTG IgA was 20.8 (N<15). Her EGD was normal and biopsy negative for celiac disease. She will be on annual follow up with serology as a possible case of being a potential celiac. She continues gluten in her diet.

15 years old girl with JIA and IgA deficiency with positive TTG IgG antibody levels with history of abdominal pain.

Her tTG IgG was 24 (Normal <10). EGD done and found to be normal with normal biopsy. Possible potential celiac disease. Due to her autoimmune condition and IgA deficiency, she is at higher risk of developing CD in future. Needs annual follow up.

SUMMARY

- Diagnosis of CD is made with a combination of clinical symptoms, serology and on a duodenal biopsy.
- European recommendations suggest that if the tTG is more than 10 times ULN in an appropriate setting there is no need for a biopsy (with +EMA and +HLA markers). However this is not the recommendation in USA.
- At present, all children are recommended to undergo biopsy for confirmation of CD.
- Some patients who are TTG antibody + may not have celiac disease suggesting it to be a false positive titer. This is especially true if they have other autoimmune disorders.
- In a situation where the family history of CD is positive, potential celiac patients are noted i.e. TTG + but no other finding and normal biopsy. Potential celiac disease suggests they can develop CD but need not be on a GFD at this time.

DISCUSSION

- Common problem ~0.7-1% prevalence in the general population
- Life long disease with a life long treatment
- The only effective treatment at this time is Gluten free diet
- GFD is more widely available now but more expensive and contamination is always a risk
- The diagnosis has to be irrefutable – hence biopsy is the key
- For confirmation of the diagnosis it is important that the patient is consuming gluten for 6 weeks prior to the biopsy.

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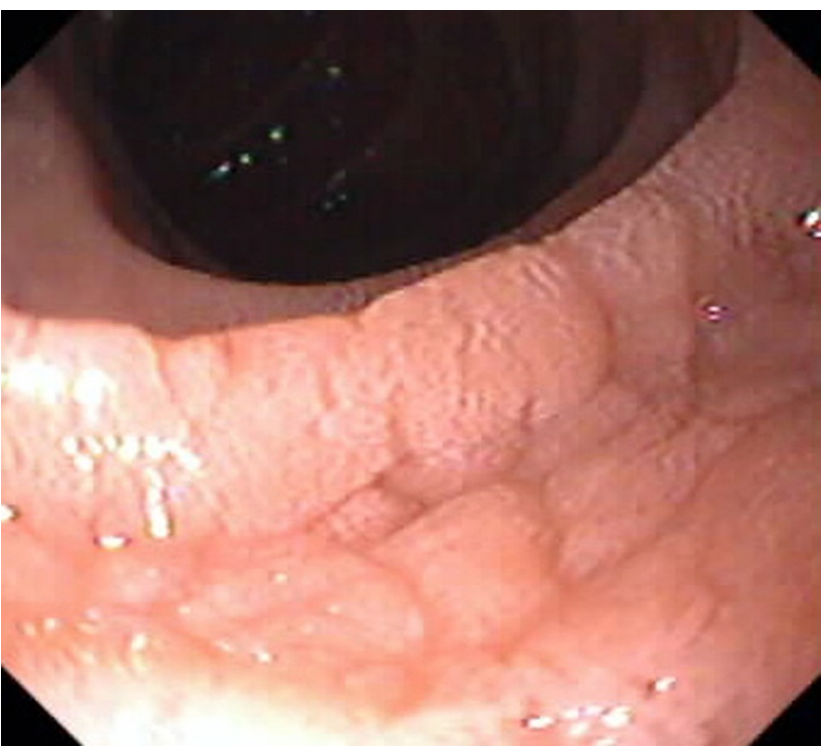
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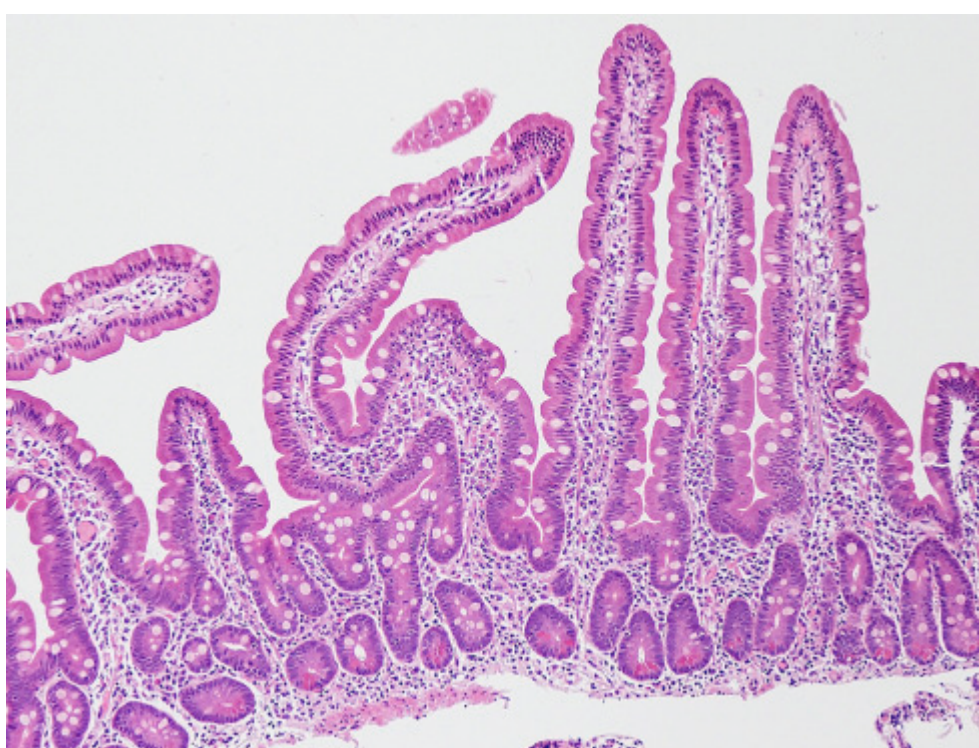
Duodenal bulb erosions



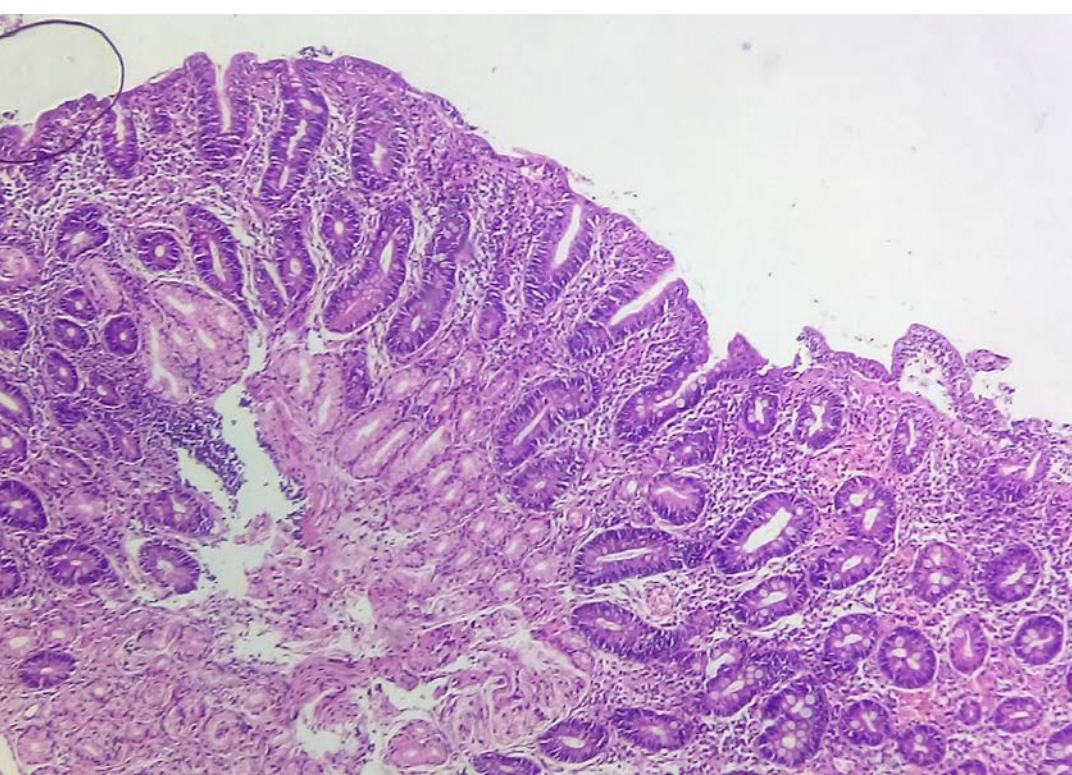
Normal duodenum



Scalloping



Normal duodenal villi



Celiac disease