

Introduction

Collagenous gastritis is a rare diagnosis that affects children and adults. The underlying pathophysiology is not very well understood and as a result there are limited options for treatment. Here we report a case of collagenous gastritis which was successfully treated with IV vedolizumab. IV vedolizumab is a monoclonal antibody against $\alpha 4\beta 7$ integrin which is commonly used to treat inflammatory bowel disease and is commonly reported for treatment of refractory microscopic colitis.

Objectives

- Review and highlight the clinical presentation of collagenous gastritis in a young adult.
- Present rare endoscopic findings which highlight the characteristic gastric nodularity.
- Demonstrate the clinical and histopathologic improvement associated with IV vedolizumab in a biopsy proven case of collagenous gastritis.
- Introduce a novel therapeutic option for the treatment of collagenous gastritis amenable to further interrogation with randomized controlled trials.

Case Presentation

- 20-year-old female presented to gastroenterology clinic with **chronic and diffuse abdominal pain** associated with **nausea, regurgitation, and early satiety**.
- PMHx significant for allergic rhinitis, **GERD**, and iron deficiency anemia.
- CBC/BMP, ESR/CRP, TSH, LFT all unremarkable.
- Workup for celiac disease including tTG and deaminated gliadin Ab negative.
- Initial EGD revealed **significant gastric nodularity**, erythema, and atrophy.
- Biopsy specimens revealed patchy foci of **increased subepithelial collagen** and focal erosion highly suggestive of collagenous gastritis.
- Initially started on **topical budesonide** without significant improvement in clinical symptoms or endoscopic findings.
- Started on **IV vedolizumab** with induction and maintenance dosing which resulted in a significant improvement in symptoms and subsequent biopsy specimens revealed marked histologic improvement.

Therapeutic Intervention

- PO budesonide for 1 year prior to beginning IV vedolizumab in 04/2021.
- Induction infusions given at 0 weeks, 2 weeks, and 6 weeks.
- Maintenance infusions given every 8 weeks thereafter.



Figure 1: Gastric body with nodularity and multiple biopsy sites.

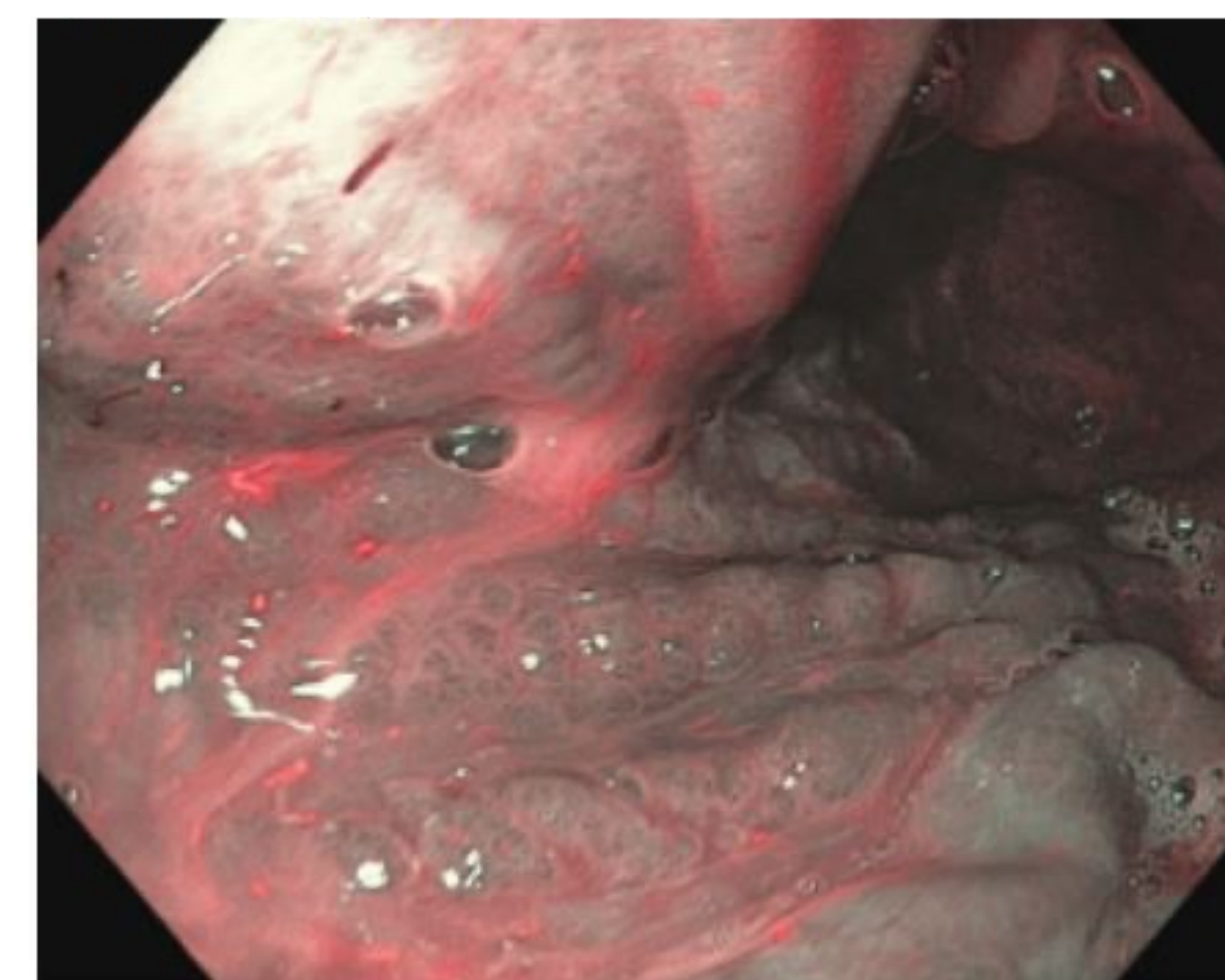


Figure 2: Narrow band imaging of gastric body with nodular pattern.

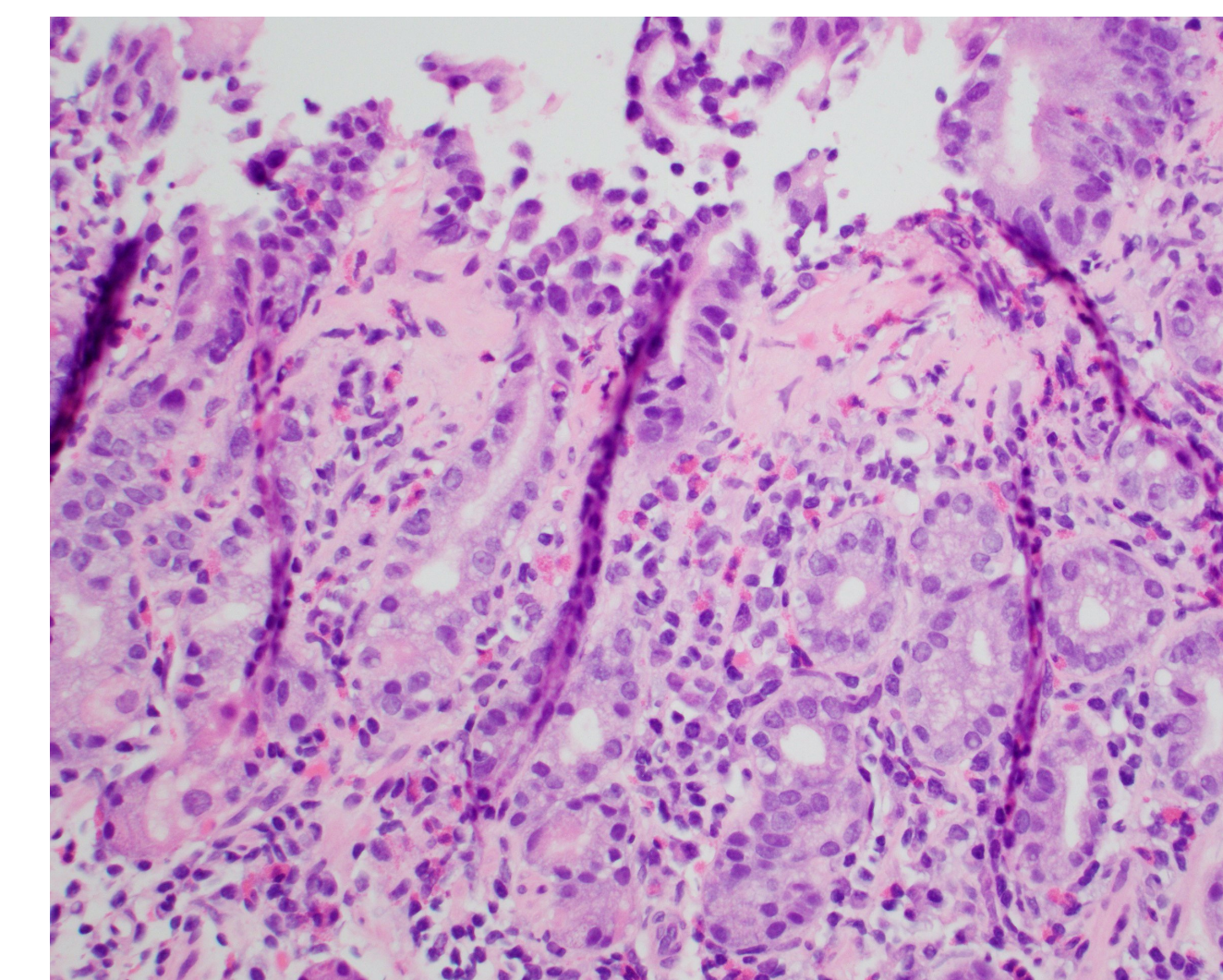


Figure 3: Initial histopathology of the gastric body showing subepithelial collagen deposition $> 10 \mu\text{M}$ in thickness with sloughing of the surface epithelium, loss of specialized gastric glands, and an inflammatory infiltrate of eosinophils, plasma cells and lymphocytes. 40x original magnification.

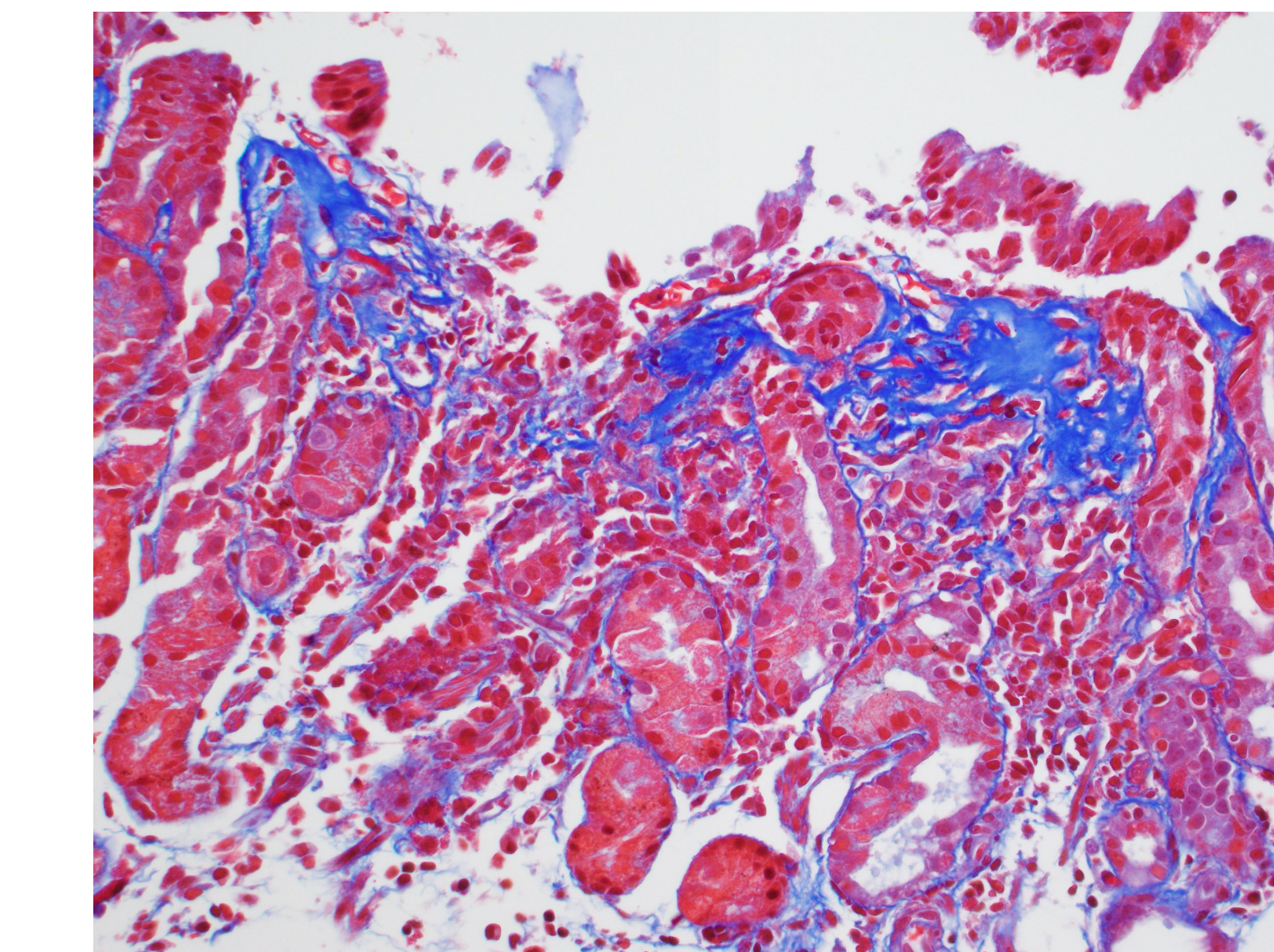


Figure 4: Initial histopathology of gastric body showing an increase in subepithelial collagen, some loss of specialized gastric glands, and an inflammatory infiltrate of eosinophils, plasma cells, and lymphocytes. Trichrome stain for collagen highlights the increased subepithelial collagen. 40x original magnification.

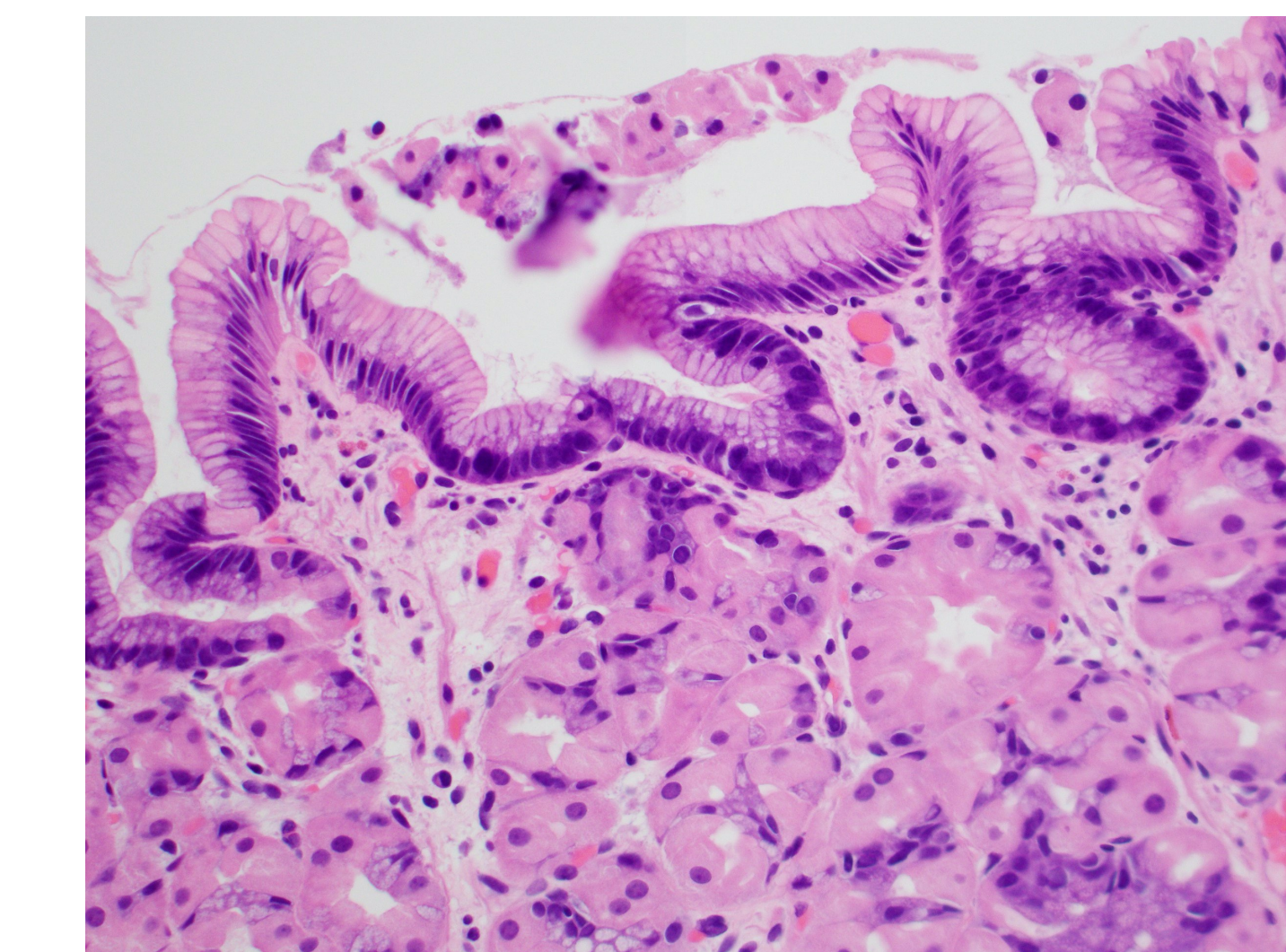


Figure 5: Histopathology of the gastric body following treatment with IV vedolizumab showing healthy surface foveolar cells and specialized gastric glands, few plasma cells within the lamina propria, and no increase in subepithelial collagen. 40x original magnification.

Discussion

- Collagenous gastritis is a rare disorder within the category of collagenous gastroenteritides which also includes collagenous sprue and collagenous colitis.
- Younger patients (< 19 years) commonly presented with abdominal pain, anemia, and nausea/vomiting whereas older patients (> 50 years) presented with weight loss and diarrhea.
- Histology of collagenous gastritis is categorized by three different inflammatory environments, a lymphocytic gastritis-like pattern, an eosinophil-rich pattern, and an atrophic gastritis-like pattern.
- Hallmark endoscopic finding of collagenous gastritis is nodularity of the gastric corpus.
- In a retrospective analysis, topical budesonide has resulted in both clinical and histologic improvement in collagenous gastritis patients.
- Efficacy of IV vedolizumab is likely due to its ability to reduce the inflammatory response in the intestinal epithelium.
- The clinical and histologic improvement in our patient should be substantiated by data from randomized controlled trials.

Conclusions

We have demonstrated a clinical and histologic improvement in our patient with collagenous gastritis with the use of IV vedolizumab. Our case highlights a potential standardized therapeutic option for more patients dealing with this chronic disease.