Gastroduodenal Crohn's Disease and the Importance of Concurrent Upper Endoscopy

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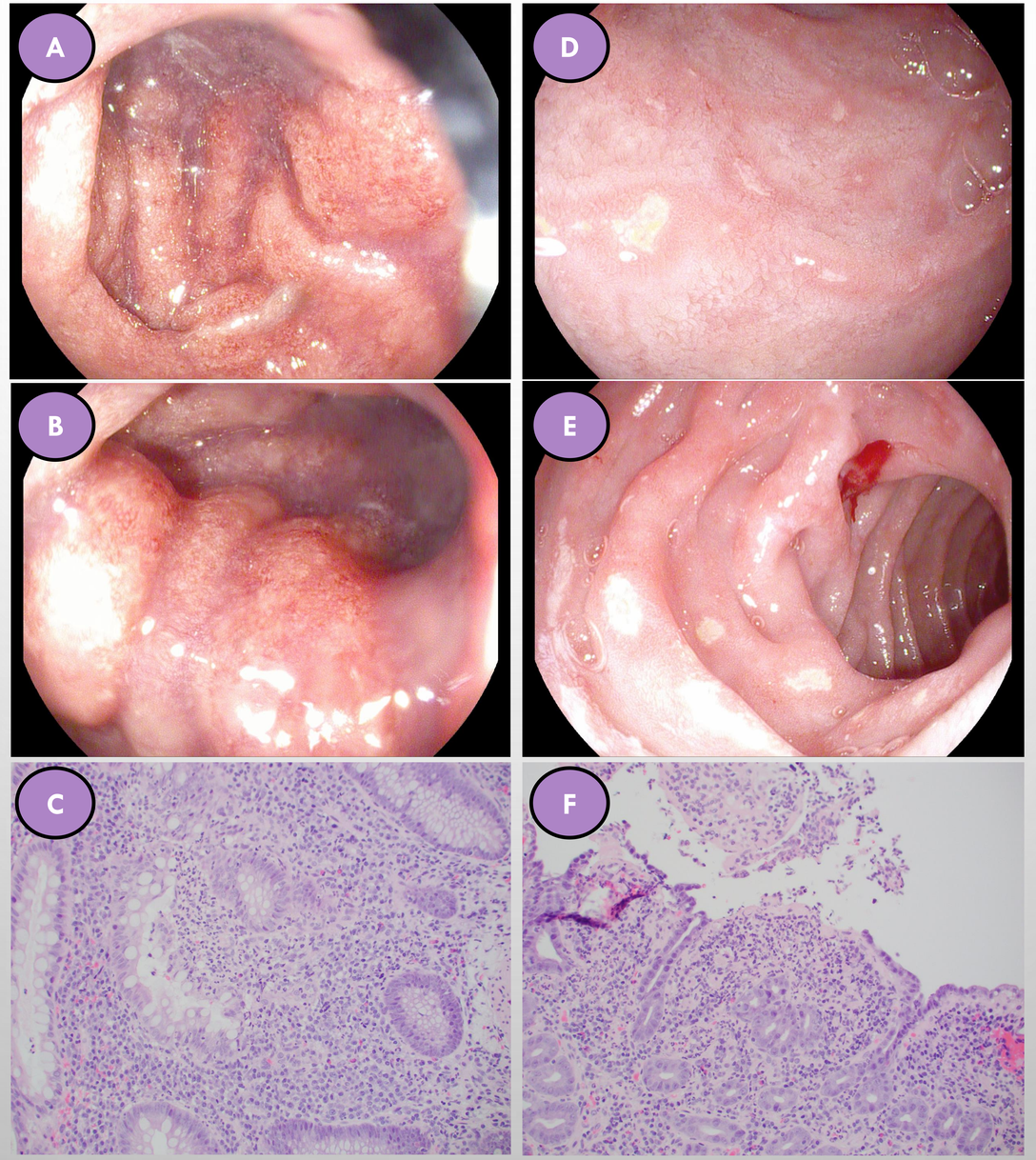
INTRODUCTION

- Gastroduodenal Crohn's disease (CD) affects 0.5-4% of all CD patients, with the majority of them have concurrent involvement of the colon. Isolated gastroduodenal involvement accounts for less than 0.07% of all CD patients.
- Pathology is more obscure in the upper GI tract and non-caseating granulomas are not necessarily needed for confirmatory diagnosis.
- Though many patients are asymptomatic, gastroduodenal involvement indicates a more severe form of CD and thereby warrants steroids and biologics earlier in the disease course.
- Most patients respond well to medical therapy with surgery indicated for perforation, bleeding, or significant structuring disease causing obstructive complications.
- Here we present a case of healthy, young male presenting with new onset gastroduodenal CD with concurrent colonic involvement that responded well to biological therapy.

CASE DESCRIPTION

- 30-year-old healthy male presented for ongoing hematochezia with watery diarrhea, cramping abdominal pain, nausea/vomiting, and poor intake for 3 months with an unintentional 30lb weight loss.
- Temp 100.4F, WBC 12,000/mm^3 with neutrophilic predominance, CRP 50, stool lactoferrin positive, calprotectin 2562.
- **Colonoscopy:** multiple, non-bleeding, round and shallow ulcers measuring between 3-7mm with extensive inflammation and loss of vascularity throughout rectum. Extensive erythema, friability, and shallow ulceration was noted extending from anus up to 22cm at which point procedure was aborted due to significant inflammation and inability to traverse rectum **[Figures A, B]**.
- **Pathology:** chronic and active colitis with plasma cells and crypts full of neutrophils, consistent with Crohn's disease **[Figure C]**.
- **EGD:** multiple non-bleeding, round, clean based and shallow ulcers ranging between 3-7mm up to 2nd part of duodenum **[Figure D, E]**.
- **Pathology:** fragments of duodenal mucosa with focal ulceration and acute inflammation with surface epithelium replaced by neutrophils and plasma cells as well as moderate chronic, focally active gastritis with negative *H pylori*, consistent with gastroduodenal Crohn's disease **[Figure F]**.
- Started on solumedrol and discharged on prednisone and mesalamine enemas with GI follow-up with plans to start infliximab. Missed follow-up.
- Presented 10 days later for diffuse abdominal pain, bilious emesis and 12 episodes of bloody diarrhea daily. WBC 17,900/mm^3, ESR 71, CRP 51.59, calprotectin 3327.
- **CT A/P:** wall thickening and a mild inflammatory fat stranding adjacent to the left colon, now involving the splenic flexure and rectum with increasing inflammatory changes since last admission.
- Switched to IV methylprednisolone in-house and discharged on prednisone with outpatient adalimumab infusions. Doing well on follow-up and started on azathioprine.



DISCUSSION

- As gastroduodenal CD is often asymptomatic in adults, an EGD is not routinely performed in this population, leading to missed diagnoses.
- In a prospective study of 119 adults with new and previously known CD, 16% of patients were found to have upper GI CD with 63% of them being asymptomatic at the time.
- A retrospective study of 138 distal-CD patients that underwent EGD for any upper GI symptoms showed that 51.3% of patients had CD-specific lesions of the upper GI tract.
- This emphasizes the importance of including routine upper endoscopy in the diagnostic evaluation of ileocolonic CD patients in order to investigate the presence, distribution, and severity of gastroduodenal involvement.
- Endoscopic findings range from edema, enanthem and longitudinal/irregular/serpiginous erosions to "cobblestoning", mucosal nodularity, duodenal stenosis/"notching", and a "bamboo-joint-like" appearance.
- Histological findings also vary and range from nonspecific focal inflammatory changes, acute and chronic inflammation and focal gastritis to lymphoid aggregates, epithelioid granulomas, and duodenitis with or without granulomas.
- While non-caseating granulomas are near pathognomonic for CD, their absence does not rule out gastroduodenal pathology.
- Frequent obscurity in identifying gastroduodenal CD encourages the integration and amalgamation of clinical, endoscopic, histological, and radiological findings along with practitioners' clinical experience and gestalt in order to establish a confirmatory diagnosis of this disease.

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