Small Bowel Enteropathy Induced by Immune Checkpoint Inhibitors: A Case Series

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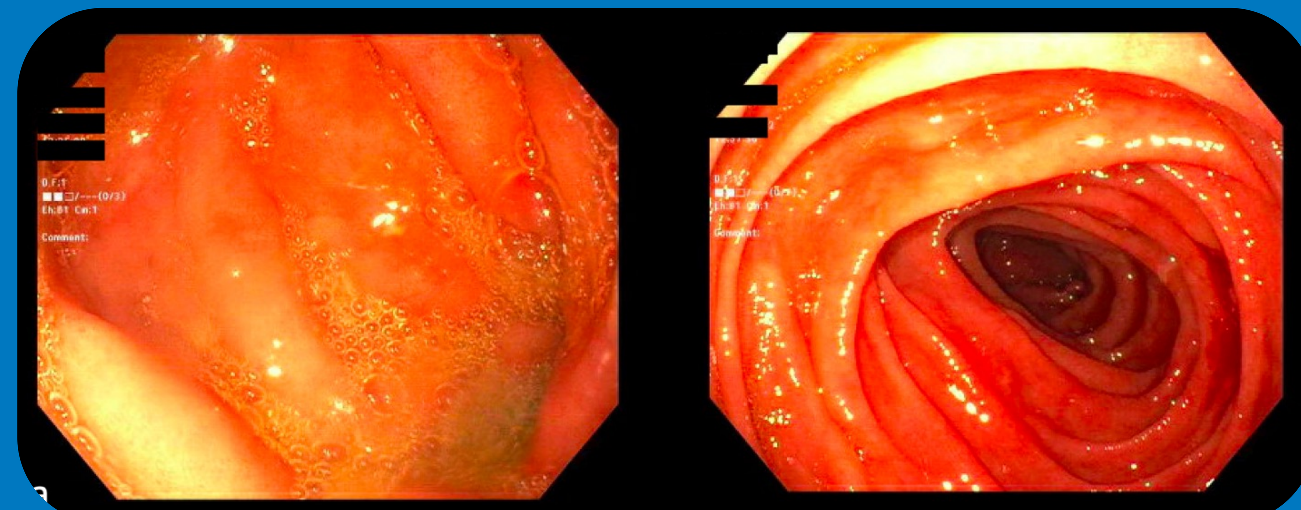
INTRODUCTION

- Many organs can develop immune related adverse events (irAEs) including gastrointestinal (GI), dermatological, endocrine, pulmonary, renal, ocular, cardiovascular, and musculoskeletal toxicities
- There is a growing understanding of the identification and management of colonic complications of immune checkpoint inhibitors (ICI)
- The most common GI irAEs are diarrhea, colitis, and hepatitis
- While injury to the upper GI tract is known to occur, literature about this pathology is limited
- In this case series, we present three patients who developed small bowel enteropathies (SBE) after initiation of ICI

CASES

CASE 1

- **68-year-old female** with stage IV non-small cell lung adenocarcinoma on pembrolizumab developed weight loss and diarrhea with 7 watery bowel movements daily
- EGD was normal and colonoscopy showed minimal colitis endoscopically with histologic duodenitis and colitis
- Despite treatment with vedolizumab, she remained steroid-dependent
- Repeat EGD and sigmoidoscopy showed variable villous abnormality in the duodenum with associated epithelial lymphocytosis, focal active duodenitis, and resolution of colitis
- Repeat labs showed a low IgA (70), low IgG (252), and elevated IgM levels. SPEP showed an atypical region of restricted mobility and was also identified on protein electrophoresis
- She then received one dose of IVIG therapy. Few months later, she was restarted on budesonide with attempts at reducing steroid dose
- Nine months after last dose of pembrolizumab, intravenous immunoglobulin therapy, and open-capsule budesonide, her symptoms resolved

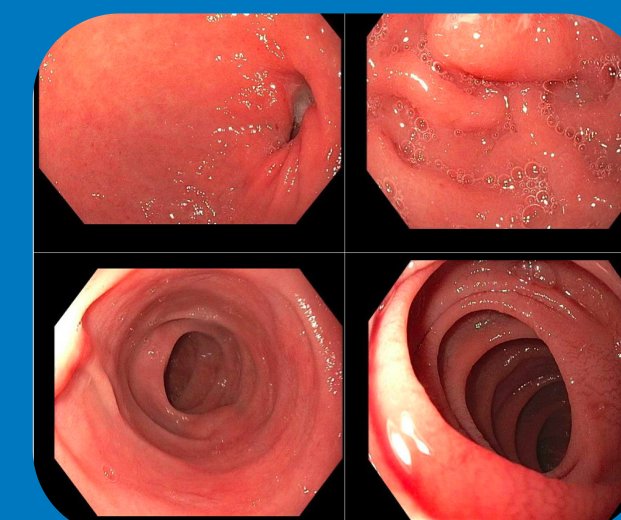


CASE 2

- **42-year-old male** with metastatic melanoma treated with ipilimumab and nivolumab
- Developed grade 2 diarrhea with steatorrhea, nausea, vomiting, and unintentional weight loss
- EGD and colonoscopy normal; biopsies showing active duodenitis
- Initially treated with steroids, but due to persistent symptoms transitioned to infliximab. After 3 doses, he had complete resolution of symptoms

CASE 3

- **59-year-old female** with celiac disease (CD) and melanoma on nivolumab
- Developed abdominal pain, early satiety, softer stools, and unintentional weight loss
- EGD revealed non-bleeding duodenal erosions and duodenal mucosal changes consistent with CD. Biopsies showed subtotal villous atrophy with increased intraepithelial lymphocytes. CD typing did not suggest refractory sprue
- After a year of intermittent steroid therapy and adherence to a gluten-free diet, she had resolution of symptoms, and near resolution of serologic and histologic changes



Conclusions

1) We present 3 patients who developed small bowel enteropathy, highlighting the challenge of its diagnosis and management
2) All 3 patients developed predominant upper GI symptoms and weight loss with 2 out of 3 patients having EGDs that were endoscopically normal with random biopsies revealing underlying inflammation
3) SBE should be suspected in individuals with altered stools and no evidence of classic colitis

Further info

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