GASTRITIS SECONDARY TO NIVOLUMAB IN A PATIENT WITH METASTATIC MELANOMA

[1]Arthur Cecchini DO, [1]Ahmad Othman MD, [1]Syed Sadiq DO, [1]Zainab Fatima MD, [1]Amanda Cecchini DO,
[1]Koushik Sanku MBBS, [1]Deidre Pierce MD, [1]Suhib Fahmawi MD, [1]Andres Diaz MD, [2]Steven Russo DO
[1]Department of Internal Medicine; [2]Division of Gastroenterology
Quillen College of Medicine, East Tennessee State University, Johnson City, TN

Introduction

- Gastritis is a known adverse effect of immunotherapy that is less often encountered compared to diarrhea or colitis.
- This case involves a 60-year-old male with metastatic melanoma treated with nivolumab who presented with vomiting and epigastric pain.
- Endoscopic findings of diffuse *Helicobacter pylori* (H. pylori)-negative and *Cytomegalovirus* (CMV)-negative gastritis and duodenitis were found.
- The diagnosis of immunotherapy-related gastritis was reached, and the patient was treated with a proton pump inhibitor and systemic glucocorticoids.
- By discharge, he was pain free and tolerating oral intake.
- He was to follow-up with his primary oncologist for further treatment options.

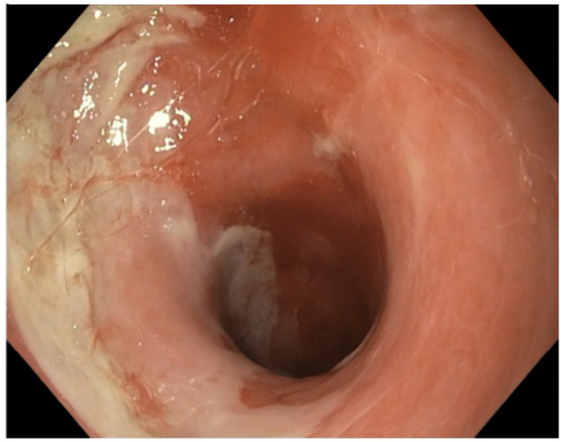
Case Presentation

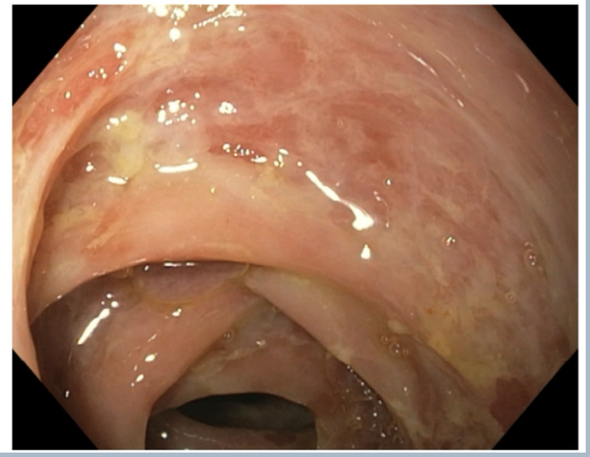
- A 60-year-old male with metastatic melanoma being treated with nivolumab monotherapy presented to the hospital with two weeks of abdominal pain and vomiting. He declined nonsteroidal anti-inflammatory (NSAID) use.
- The patient underwent esophagogastroduodenoscopy (EGD), which demonstrated diffuse ulceration and friability of the gastric and duodenal mucosa.
- Pathology revealed severe gastritis and duodenitis and was negative for CMV and H. pylori.
- Intravenous (IV) pantoprazole and oral sucralfate were started, along with IV methylprednisolone, which was later transitioned to oral prednisone. The patient's symptoms improved.
- The hospital course was complicated by severe oropharyngeal candidiasis treated with nystatin and fluconazole, dysphagia requiring temporary nasogastric (NG) tube placement, hypotension, delirium, QTc prolongation requiring cessation of oral fluconazole, pulmonary embolism requiring anticoagulation, and bacteremia of unknown origin requiring ceftriaxone.
- Ultimately, he improved, was able to tolerate oral intake, and was able to be discharged home.

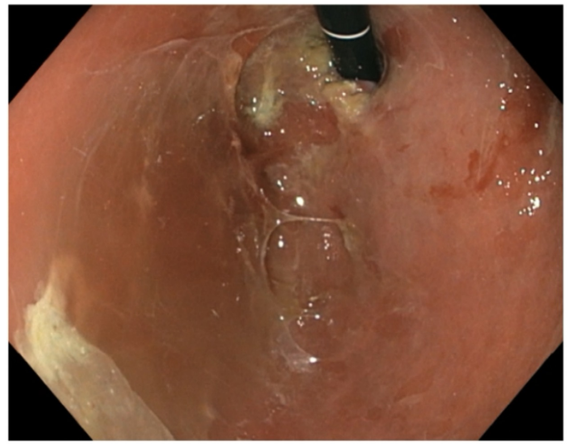
Discussion

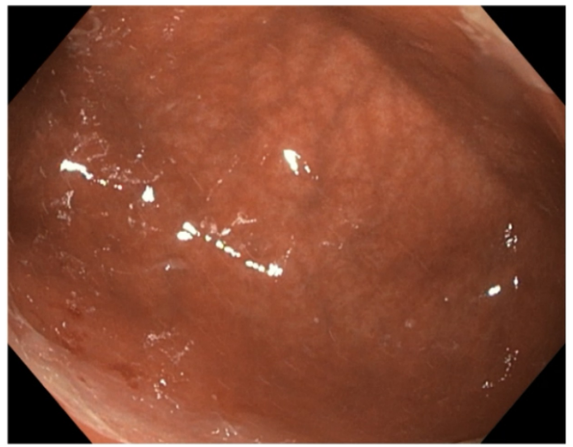
- Immunotherapy-related gastritis is less common than immunotherapy-related colitis, yet an increasing number of case reports have been published describing this phenomenon.
- Other causes of gastritis must be excluded, including NSAID use, H. pylori, and CMV. This patient was not taking NSAIDs, and testing was negative for H. pylori and CMV, thus the most likely etiology was an adverse reaction to immunotherapy.
- The clinical presentation of immunotherapy-related gastritis is highly variable but typically includes nausea, dyspepsia, and dietary intolerance.
- EGD often reveals diffuse gastric edema, ulceration, and tissue sloughing.
- Biopsy demonstrates a mixed inflammatory infiltrate consistent with gastritis.
- Treatment for immunotherapy-related gastritis includes systemic glucocorticoids, proton pump inhibitors, and withholding of the causative agent. Infliximab is often used for refractory disease.

Figures: Upper endoscopy revealing diffuse sloughing of the gastric mucosa









Conclusion

- Immunotherapy-related gastritis is more frequently being reported in the literature.
- Dyspepsia, nausea, and oral intolerance are commonly reported symptoms.
- Suspicion should arise for this disease process when endoscopic evaluation reveals diffuse gastric ulceration, friability, and edema in a patient receiving immunotherapy.
- Histologic evaluation typically shows a mixed inflammatory infiltrate.
- Testing to exclude H. pylori and CMV should be performed.
- Treatment is usually with systemic glucocorticoids and proton pump inhibition.

References

1. Woodford R, Briscoe K, Tustin R, Jain A. Immunotherapy-related gastritis: Two case reports and literature review. Clin Med Insights Oncol. 2021 Jul 9;15:11795549211028570. doi: 10.1177/11795549211028570. PMID: 34290539; PMCID: PMC8274081.
2. Cheung VTF, Brain O. Immunotherapy induced enterocolitis and gastritis - What to do and when? Best Pract Res Clin Gastroenterol. 2020 Oct-Dec;48-49:101703. doi: 10.1016/j.bpg.2020.101703. Epub 2020 Oct 23. PMID: 33317787.
3. Vandepapelière J, Siplet J, Libbrecht L, Dano H, Baurain JF, Moreels T. Auto-immune gastritis induced by pembrolizumab, an anti-PD-1, in a melanoma patient. Acta Gastroenterol Belg. 2020 Jul-Sep;83(3):482-484. PMID: 33094598.
4. Iranzo I, Huguet JM, Suárez P, Ferrer-Barceló L, Iranzo V, Sempere J. Endoscopic evaluation of immunotherapy-induced gastrointestinal toxicity. World J Gastrointest Endosc. 2018 Dec 16;10(12):392-399. doi: 10.4253/wjge.v10.i12.392. PMID: 30631403; PMCID: PMC6323501.
5. Gaffuri P, Espeli V, Fulciniti F, Paone G, Bergmann M. Immune-related acute and lymphocytic gastritis in a patient with metastatic melanoma treated with pembrolizumab immunotherapy. Pathologica. 2019 Sep;111(3):92-97. doi: 10.32074/1591-951X-24-19. PMID: 31748755; PMCID: PMC8138491.
6. Tsuji A, Hiramatsu K, Namikawa S, Yamamoto A, Midori Y, Murata Y, Tanaka T, Nosaka T, Naito T, Takahashi K, Ofuji K, Matsuda H, Ohtani M, Imamura Y, Iino S, Hasegawa M, Nakamoto Y. A rare case of eosinophilic gastritis induced by nivolumab therapy for metastatic melanoma. Clin J Gastroenterol. 2022 Oct;15(5):876-880. doi: 10.1007/s12328-022-01680-y. Epub 2022 Aug 17. PMID: 35978213.