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Female Predominance in Metronidazole-Induced Acute Pancreatitis: A Case Report and Review of Literature

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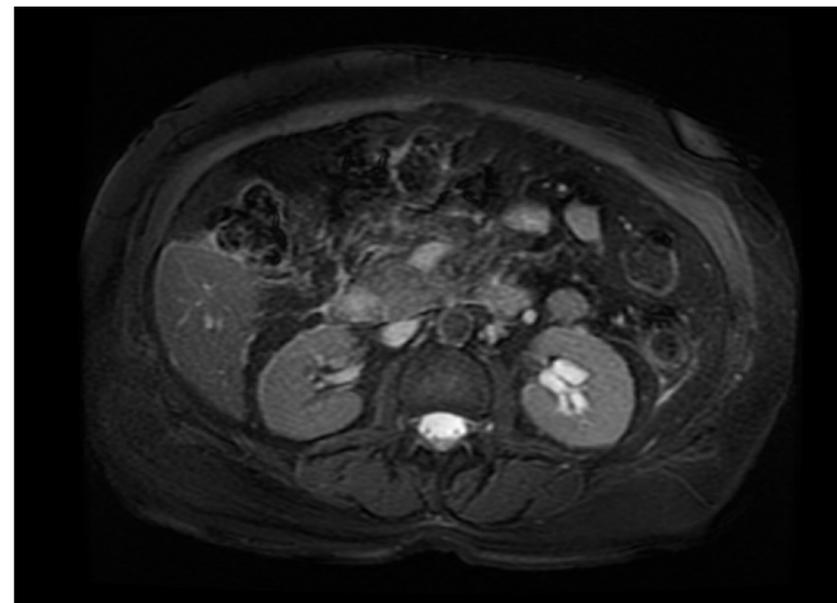
Introduction

- Acute pancreatitis is a relatively common condition in the hospital.
- About 75% of cases are associated with excessive alcohol use or gallstones, and only 0.1 to 2% are drug-induced.
- The clinical and pathologic findings are similar regardless of the inciting cause.
- We have suspicion that metronidazole-induced pancreatitis occurs at a significantly higher incidence, or maybe exclusively, in females.

Case

- A 68 year old Caucasian female with history of hyperlipidemia, cardiomyopathy and hypothyroidism presents to the ED with chief complaint of epigastric pain.
- Symptoms started few days prior with back pain that progressed to epigastric tenderness and fullness. Associated symptoms include nausea and vomiting. She denies alcohol or tobacco use.
- About 2 weeks ago, patient underwent upper endoscopy for ongoing epigastric pain and family history of sister who passed away in her 50s from gastric cancer. EGD showed numerous pedunculated and sessile hyperplastic appearing gastric polyps in the fundus and body; biopsy was obtained. Pathology report revealed no dysplasia or malignancy.
- She completed a short course of metronidazole for abdominal bloating and diarrhea 4 days prior to hospital presentation.

Imaging



- On admission, lipase was 10,347 with normal triglyceride and calcium levels.
- CT imaging demonstrated stranding around the pancreatic head and uncinate process.
- MRCP was performed to assess the pancreatic duct; it revealed acute pancreatitis, but no cholelithiasis, choledocholithiasis or other complicating features.

Discussion

- Metronidazole-induced acute pancreatitis has been reported in prior English literature; in which all 8 cases involved female patients [1].
- Proposed mechanisms include free radical production and immune-mediated inflammatory response.
- In a population-based case control study, there was a significantly increased risk of acute pancreatitis within 30 days exposure to metronidazole, especially when used in combination with other agents for H. pylori eradication [2].

Conclusion

- Physicians should maintain a high index of suspicion when prescribing metronidazole, especially with other agents used for H. pylori eradication, and avoid rechallenge.
- Further investigation may help reduce morbidity related with this phenomenon.

References

1. O'Halloran E, Hogan A, Mealy K. Metronidazole-induced pancreatitis. *HPB Surg.* 2010;2010:523468. doi:10.1155/2010/523468
2. Barbulescu A, Oskarsson V, Lindblad M, Ljung R, Brooke HL. Oral metronidazole use and risk of acute pancreatitis: a population-based case-control study. *Clin Epidemiol.* 2018;10:1573–1581. Published 2018 Oct 25. doi:10.2147/CLEP.S159702