

A Case of Tinnitus in a Patient with Ulcerative Colitis on Rectal Mesalamine

Omar Khalil, Lara Miranda, Daniel Kim, Suzanne Elshafey MD, David Wan MD

New York Presbyterian-Weill Cornell Medicine, Department of Gastroenterology and Hepatology, New York, NY

New York Presbyterian-Weill Cornell Medicine, Department of Pathology, New York, NY

INTRODUCTION

- Ulcerative colitis (UC) is the most common form of inflammatory bowel disease (IBD).
- It is characterized by continuous inflammation, friability, mucosal and submucosal erosions involving any segment of the colon.
- Mesalamine (5-ASA) is a first-line treatment that can be given orally or rectally.
- 5-ASA is also a salicylate, which have a strong association with tinnitus.
- To our knowledge, there are no reported cases of oral 5-ASA related ototoxicity in IBD patients.
- These effects would be less expected in patients taking rectal mesalamine.

CASE DESCRIPTION

- A 76-year-old man with coronary artery disease (CAD), hypertension, prostate cancer s/p radiation, sigmoid diverticulitis s/p sigmoidectomy and ileostomy presented with worsening bowel incontinence 4 months after ileostomy reversal.
- Family history was notable for two children with IBD.
- Infectious stool studies were negative.
- CT scan of the abdomen showed proctitis.
- Flexible sigmoidoscopy and pathology was suggestive of ulcerative colitis.
- The patient was started on rectal mesalamine with subsequent improvement in symptoms and partial Mayo score.
- In a three month follow up, he reported new onset tinnitus.
- Rectal mesalamine was discontinued with full resolution of the tinnitus less than two weeks later.



Figure 1. Endoscopic findings showing rectal mucosal friability, edema, erythema, and loss of vascular markings suggestive of ulcerative colitis.

DISCUSSION

- Rectal mesalamine is variably absorbed in the gut.
- It is metabolized through N-acetylation in the liver.
- Then, it is mainly cleared by the kidneys.
- Therefore, reasons for toxicity include renal impairment and coadministration of other salicylates like aspirin.
- This patient's eGFR was reduced and he was on aspirin therapy for CAD.
- This may have increased his risk of developing tinnitus.
- It is important to assess these factors prior to prescribing mesalamine.
- It is also important to maintain close follow-up of patients with risk factors.
- Tinnitus is often easily reversible with mesalamine discontinuation.
- The mechanism behind it is still not fully known.
- Further studies are needed to better understand the pharmacokinetics of rectal mesalamine and its role in systemic toxicity.

References

- Ha, C. Y., Newberry, R. D., Stone, C. D., & Ciorba, M. A. (2010). Patients with late-adult-onset ulcerative colitis have better outcomes than those with early onset disease. *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*, 8(8), 682–687. e1. <https://doi.org/10.1016/j.cgh.2010.03.022>
- Lynch WD, Hsu R. Ulcerative Colitis. [Updated 2022 Jun 11]. In: StatPearls [Internet]. *Treasure Island (FL): StatPearls Publishing; 2022 Jan-*. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK459282/>
- Fousekis, F. S., Saridi, M., Albani, E., Daniel, F., Katsanos, K. H., Kastanioudakis, I. G., & Christodoulou, D. K. (2018). Ear Involvement in Inflammatory Bowel Disease: A Review of the Literature. *Journal of clinical medicine research*, 10(8), 609–614. <https://doi.org/10.14740/jocmr3465w>
- National Center for Biotechnology Information (2022). PubChem Compound Summary for CID 4075, Mesalamine. Retrieved September 6, 2022 from <https://pubchem.ncbi.nlm.nih.gov/compound/Mesalamine#section=Toxicity-Summary>.