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Case Report

Zolmitriptan-associated Ischemic Colitis: A Case Report

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Abstract

Ischemic colitis has been previously associated with the use of certain medications; however, no cases have been reported in connection with zolmitriptan. This study aimed to describe a case of ischemic colitis associated with zolmitriptan use. A 56-year-old female patient taking zolmitriptan presented to the hospital with complaints of abdominal pain, bloody diarrhea, and emesis. Colonoscopy and abdominal imaging with computed tomography revealed findings consistent with ischemic colitis. After recognizing the association between ischemic colitis and zolmitriptan use, the medication was discontinued, and the patient recovered with supportive therapy. This is the first reported case of ischemic colitis associated with zolmitriptan.

Introduction

Triptans are a family of drugs that exert their effects by activating 5-hydroxytryptamine receptors of types 1B, 1D, and 1F.[1] Their main medical indication, migraine, affects at least 12% of the American population.[1,2] Zolmitriptan, a member of this family, is usually well tolerated by most patients.[3] Most clinical adverse effects of zolmitriptan are benign and transient, including paresthesia, nausea, dizziness, and somnolence.[3] Still, the occurrence of severe adverse effects, such as cardiovascular events, is possible with the use of zolmitriptan.[3]

Another severe adverse effect that has been previously reported with the use of triptans is ischemic colitis (IC).[4] IC results from an interruption in blood flow to any segment of the colon and is the most common form of intestinal ischemia.[4] IC has been documented in patients taking sumatriptan, rizatriptan, naratriptan, and other non-triptan medications.[4] To the authors' best knowledge, no case of IC has been previously reported in a patient taking zolmitriptan. Therefore, the present study aimed to report the occurrence of IC associated with zolmitriptan use. Three consecutive monthly appointments were held after discharge, during which the patient denied any new abdominal symptoms and continued to have adequate control of headaches, experiencing only one episode per month.

Case presentation

A 56-year-old female presented to the emergency department complaining of abdominal pain, bloody diarrhea, and emesis with an 8-hour duration. Her relevant medical history included arterial hypertension treated with losartan, hypothyroidism treated with levothyroxine, and chronic migraine without aura treated with zolmitriptan 2.5 mg (2.5 mg at the onset of a migraine, with an additional dose after 12 h if the episode was not aborted).

The patient was hemodynamically stable. A complete blood count, biochemical profile, and inflammatory markers were normal. Stool analysis revealed more than 100 red blood cells per field. She was admitted to the hospital for further diagnostic workup.

A rectosigmoidoscopy showed ulceration and loss of the normal colonic vascular pattern 30 to 50 cm distal to the anal margin (Fig. 1). Histopathology of the affected area is shown in Figure 2. To rule out conditions beyond the colon, a computed tomography (CT) enterography was performed, which revealed only an inflammatory process in the descending colon (Fig. 3). A colonoscopy confirmed ulceration and inflammation of the colonic mucosa at this site. On the fifth day of hospitalization, the patient experienced another episode of intense abdominal pain and bloody diarrhea one hour after zolmitriptan 2.5 mg was administered for a new migraine episode. After this episode, zolmitriptan was discontinued, and dexamethasone (4 mg intravenous single dose) was initiated. Topiramate was also prescribed, resulting in the complete resolution of the migraine attacks. A neurologic workup for the chronic

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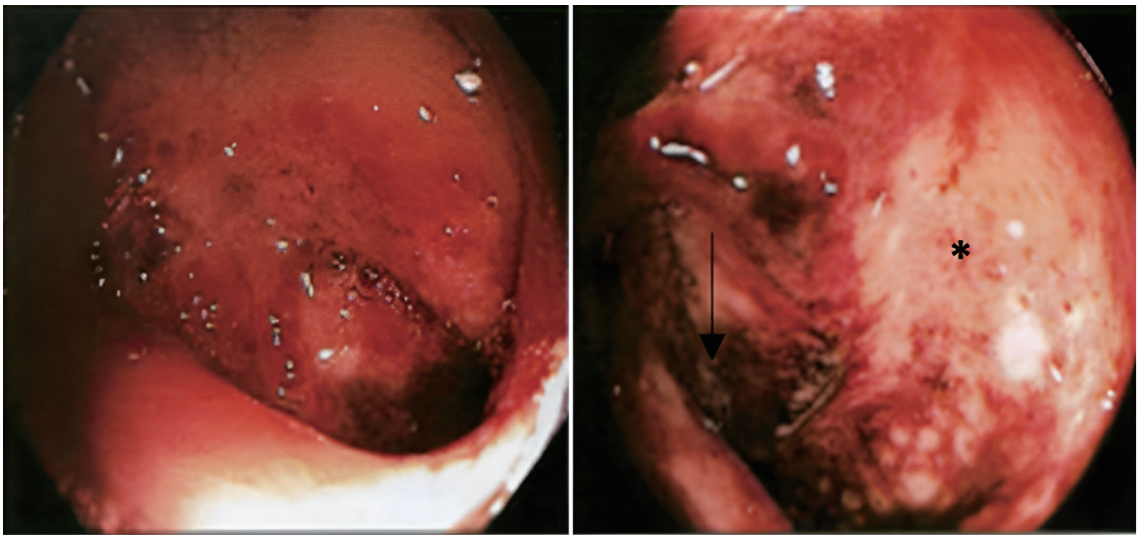

Fig. 1. A clinical photograph of the colonic mucosa during endoscopy of the descending colon, revealing necrotic areas (black arrow) and abnormal vascular patterns (black asterisk).

migraine without aura revealed no organic cause.

Four days after discontinuation of zolmitriptan, the patient's abdominal pain, nausea, and bloody stools completely resolved. The patient was discharged with prophylactic topiramate for her chronic migraine and instructions to avoid 5-hydroxytryptamine 5-HT 1B/1D receptor agonists.

Discussion

Medication-related IC has been reported with several classes of medications, including triptans, alosetron, digitalis, tumor necrosis factor inhibitors, and type-1 interferons.[4] Nonetheless, most of these reports are case reports or case series.[4] Among the triptans, sumatriptan, rizatriptan, and naratriptan have been associated with IC.[4,5] Zolmitriptan, to the authors' best knowledge, has not been previously linked to IC.

Triptans can potentially cause vasospastic reactions, including coronary artery vasospasm, peripheral vascular ischemia, and colonic ischemia. For this reason, triptans should be avoided in patients with known coronary artery disease (CAD) or those with

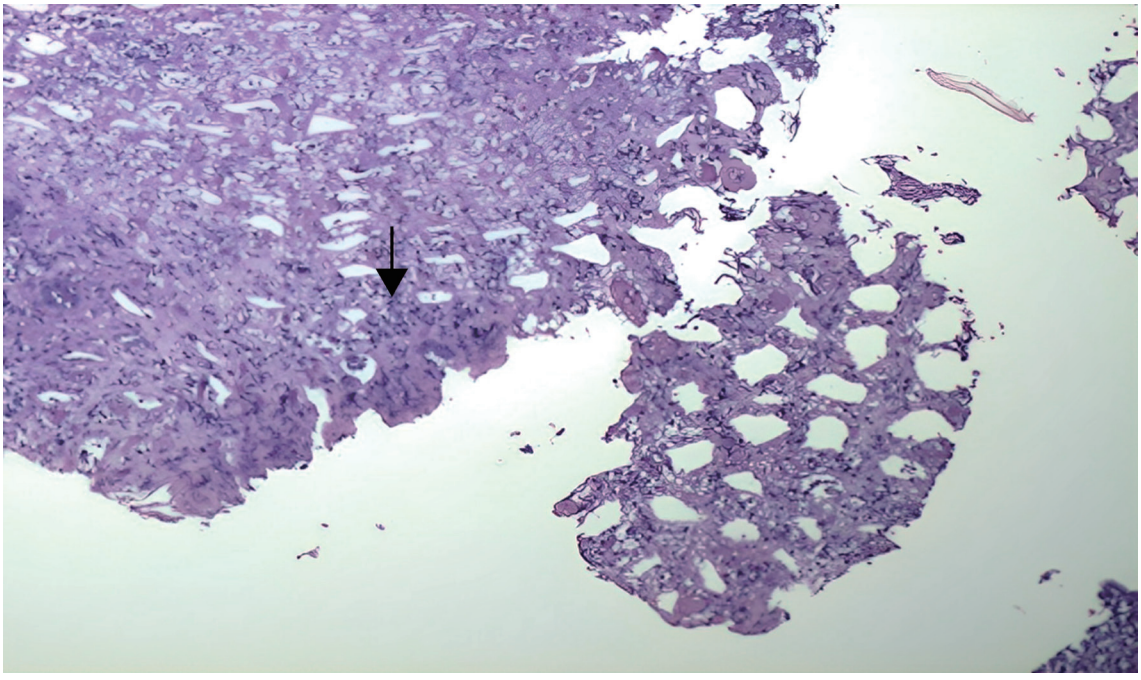

Fig. 2. Light microscopy (4×) of the affected colonic mucosa stained with hematoxylin and eosin, showing mucosal atrophy and mononuclear infiltrates (black arrow).

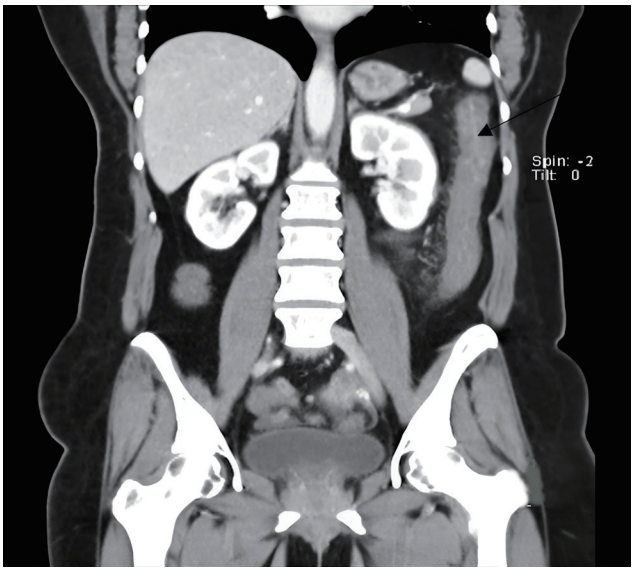

Fig. 3. Computed tomography enterography on coronal section, revealing inflammation in the descending colon (black arrow).

multiple risk factors for CAD, such as arterial hypertension, hypercholesterolemia, smoking, obesity, diabetes, postmenopausal females, and males over 40 years old.[4] Previous case reports of triptan-associated IC have involved female patients, aged 35–63 years, matching the profile of our patient.[4] Regarding comorbidities, it should be noted that the patient already had a diagnosis of arterial hypertension and had undergone physiological menopause, both of which are known risk factors for CAD.[4] The dosage of each triptan used and the affected colonic area have varied considerably between cases.[4] However, all previously reported cases have been resolved with supportive care, including bowel rest, fluid resuscitation, pain control, and, in some cases, antibiotic therapy, as with our patient.[4,6] Another important point to highlight is the timely implementation of treatment and close monitoring during management to rule out potentially fatal complications of IC, such as intestinal perforation, abscess formation, or colon stenosis.[7] Recurrences have been documented in some patients,[4] and therefore, restarting zolmitriptan or using another triptan after this adverse effect is not recommended. The endoscopic and computed tomography findings in the colon of our patient match those of previously reported cases.[4]

Given the increasing use of triptans in patients with migraine, and their sometimes indiscriminate use despite contraindications (up to 15% of cases), longitudinal and controlled studies are needed to provide conclusive evidence for a causal relationship between triptan use and IC.[8] Additionally, no consensus exists regarding treatment or future avoidance of triptan-related medications for these patients. A multicenter, collaborative study could be a viable option to gather sufficient data and address these questions.

Conclusions

This is the first report of IC associated with zolmitriptan use. It is imperative to review the risk factors for CAD and contraindications before prescribing a triptan, as well as to educate patients about potential adverse effects. Future longitudinal, controlled studies are required to establish a causal relationship and determine the best treatment for triptan-associated IC.

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Conflict of interest

The authors have no conflict of interests related to this publication.

Author contributions

Designing the research study (LAOR, JCP, EPG), collecting the data (LAOR, RMR, LAGG, RERL), writing the manuscript (LAOR, JCP, EPG, RMR, LAGG, RERL), critically reviewing, revising the manuscript (LAOR, LEFG), and study supervision (LAOR, LEFG). All authors have approved the final version and publication of the manuscript.

Ethical statement

The study complied with the ethical standards of the institutions to which the authors are affiliated and the principles outlined in the Declaration of Helsinki (as revised in 2013). Written informed consent was obtained from the patient during her hospitalization for the publication of her case report.

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