

Short-course high-dose ibuprofen causing both early and delayed jejunal perforations in a non-smoking man

Aseef Yehiyan,¹ Sowrav Barman,¹ Haren Varia,² Stephen Pettit¹

¹Department of Surgery,
Blackpool Teaching Hospitals
NHS Foundation Trust,
Blackpool, UK

²Department of Radiology,
Blackpool Teaching Hospitals
NHS Foundation Trust,
Blackpool, UK

Correspondence to

Stephen Pettit,
stephenpettit@btinternet.com

Accepted 10 December 2017

DESCRIPTION

A 48-year-old non-smoking man underwent laparotomy for peritonitis immediately after taking ibuprofen 800mg 6 hourly for 14 days for back pain. His only other medication was long-term omeprazole 20mg per day. At operation he had three separate perforations in his proximal jejunum. Fifteen centimetres of jejunum were resected with primary anastomosis. Histology showed focal mucosal ischaemic changes with normal mucosa between. There was no vasculitis. The perforations were attributed to ibuprofen intake. He made an uneventful recovery and was instructed to refrain from non-steroidal anti-inflammatory drug (NSAID) intake.

He was readmitted 5 months later with abdominal pain. He had continued omeprazole but had taken no further NSAID. CT showed extensive free intra-abdominal fluid with free gas adjacent to his proximal jejunum (figure 1), indicating a further perforation. This was confirmed at laparotomy when a 5mm perforated ulcer was found in his proximal jejunum (figure 2). This was repaired and a serosal patch was applied. Histology from the ulcer margin showed ischaemia and infarction (figure 3). He made an uneventful recovery and



Figure 2 Operative photograph showing the perforated ulcer in the proximal jejunum.

remains well 1 year later. Investigations including serum gastrin, a connective tissue disease screen and thrombophilia screen have been normal, implicating ibuprofen as sole causation for the jejunal ulceration.

Jejunal perforation is a recognised but rare complication of NSAID use^{1,2} and is reported to occur in 0.0047% of ibuprofen users. It is known that NSAID can cause small bowel strictures many months after NSAID intake has ceased as a result of an initial microvascular injury to the villous circulation of the small bowel mucosa.³ This allows entry of bacteria and their products into the mucosal cells causing further damage. It has recently been reported that the simultaneous use of proton pump inhibition is a risk factor for NSAID-induced small bowel ulceration.⁴ This is because proton pump inhibitors induce changes in the type and numbers of enteral bacteria. A similar mechanism may



Figure 1 Reformatted coronal CT showing free gas adjacent to the proximal jejunum (arrow) and free fluid in the pelvis.

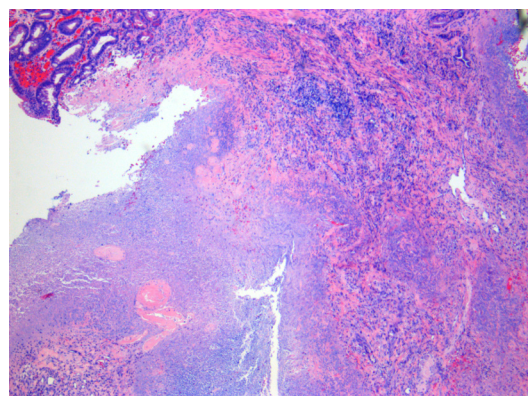


Figure 3 Histopathology slide of jejunum H&E x50 magnification showing ulceration and granulation tissue.



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To cite: Yehiyan A, Barman S, Varia H, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-223644

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explain this previously unreported occurrence of delayed jejunal perforation following short-course high-dose ibuprofen use.

Learning points

- ▶ Short-course high-dose ibuprofen use can cause both early and delayed jejunal perforations in susceptible individuals.
- ▶ Proton pump inhibition exacerbates non-steroidal anti-inflammatory drug-induced intestinal damage by inducing dysbiosis.

Contributors AY, SB and SP identified this case as worthy of publication because of its clinical importance. HV undertook the radiological investigations. All the authors were involved in the literature search and in writing up the case report.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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