

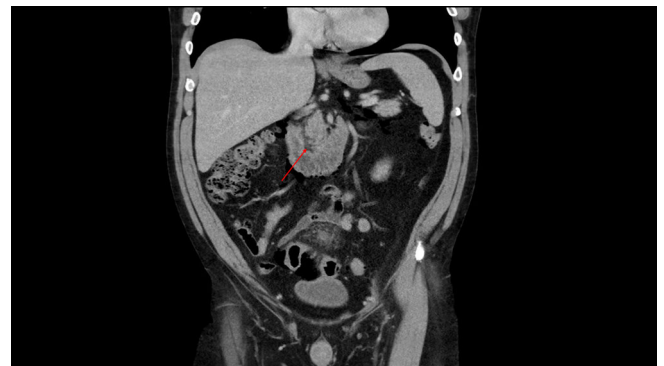
## An unusual case of acute pancreatitis in a patient with sigmoid diverticulitis

Acute pancreatitis is an increasingly common presentation in Australia from both biliary and alcohol related aetiologies, with an average incidence of 46 per 100 000 people per year.<sup>1</sup> This trend has also been observed worldwide in Western countries, with estimated 1% mortality observed overall, although this may be up to 40% in patients with necrotising pancreatitis or organ dysfunction.<sup>2</sup> Colonic diverticulitis is likewise increasing in incidence in a number of Western countries.<sup>3–5</sup> We present the first reported case of acute pancreatitis arising secondary to diverticulitis of the sigmoid colon.

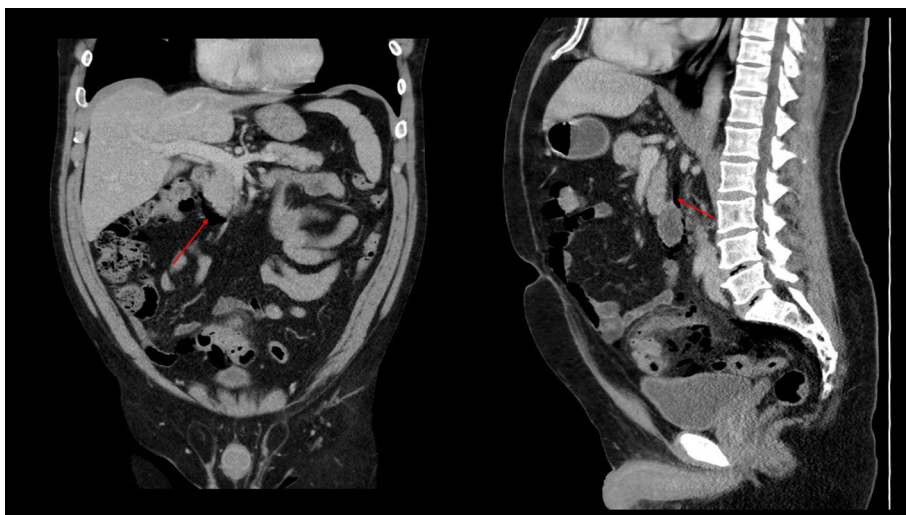
We describe a 53-year-old Caucasian man who presented with 8 days of lower abdominal pain. His past medical history was significant for hypertension only; there was no history of biliary disease or recent alcohol use. On examination, he had generalized abdominal tenderness without any signs of peritonism. CT of the abdomen and pelvis with contrast demonstrated segmental thickening of the sigmoid colon in the presence of multiple diverticula, with surrounding fat stranding and extensive free gas, consistent with perforated sigmoid diverticulitis. The pancreas appeared normal on this initial CT, and serum lipase on admission was within normal limits (<10 U/L; reference range 0–60 U/L). He was initially admitted to a regional hospital, commenced on intravenous piperacillin/tazobactam and made nil by mouth. Following 4 days of worsening pain, repeat CT was performed which showed an increase in free gas, as well as retro-peritoneal free gas extending to the pancreas (Fig. 1), and fat stranding at the pancreatic head (Fig. 2). Repeat serum lipase was performed and now elevated at 2433 U/L, consistent with acute

pancreatitis. There was no acute kidney injury or features of severe sepsis present, which can be extra-pancreatic causes of lipase elevation. He was transferred to a tertiary Colorectal Surgery unit, and then proceeded to undergo a laparoscopic Hartmann's procedure and abdominal washout. Intraoperatively, there was evidence of generalized peritonitis including contamination of the upper abdomen, as well as pelvic abscess formation. The patient had ongoing abdominal pain post-operatively, and was treated with intravenous fluids, bowel rest and gradual advancement of oral intake as tolerated before being discharged on post-operative day 9.

Cases have been described of acute pancreatitis in the setting of duodenal diverticulitis<sup>6,7</sup>; however, pancreatitis secondary to colonic



**Fig. 2.** Fat stranding surrounding the pancreatic head (red arrow).



**Fig. 1.** Peri-pancreatic free gas (red arrow) arising from perforated sigmoid diverticulitis.

diverticulitis is rare. There have been cases previously reported of pancreatitis in the setting of diverticulitis at the hepatic flexure<sup>8</sup> and at the proximal descending colon,<sup>9,10</sup> but to our knowledge, this is the first reported case of pancreatitis secondary to sigmoid diverticulitis.

In this case of perforated sigmoid diverticulitis, although the primary intraabdominal pathology is relatively distant to the pancreas, the extension of free gas, peritonitis and peritoneal contamination into the upper abdomen appears to have resulted in a clinically significant pancreatitis. In this case, delay to operative intervention and worsening peritonitis likely contributed to the development of pancreatitis.

The presence of co-existing pancreatitis in patients with colonic diverticulitis is important to identify as it may complicate management. Considerations may include more aggressive fluid resuscitation or extended bowel rest compared to other patients. Additionally, while in this case the Hartmann's procedure proceeded uneventfully, pancreatitis may lead to distorted tissue planes in the upper abdomen, increasing the technical difficulty of an operation and risk of intraoperative complications. Complications of pancreatitis, including splanchnic vein thrombosis, pancreatic fistula and pancreatic necrosis, can also impair post-operative progress, which is particularly a concern if a primary anastomosis is formed.

As a result, the potential for developing pancreatitis secondary to perforated diverticulitis is important for clinicians to consider, including as a possible consequence of delay to operative intervention. In contrast to the classical preference of Occam's razor for simplicity, in this case, these two disease processes may present a difficult management dilemma when they are combined.

Informed consent was obtained from the patient for publication of this case report.

## Acknowledgement

Open access publishing facilitated by Monash University, as part of the Wiley - Monash University agreement via the Council of Australian University Librarians.


## Author contributions

**Ashray Rajagopalan:** Conceptualization; writing – original draft; writing – review and editing. **asiri arachchi:** Conceptualization;

supervision; writing – review and editing. **Yeng Kwang Tay:** Supervision. **Thang Chien Nguyen:** Supervision.

## References

1. Raftopoulos NL, Torpy DJ, Louise RR. *Epidemiology of Acute Pancreatitis in Australia from 2007–2019*. *Surg: ANZ J*, 2021.
2. Iannuzzi JP, King JA, Leong JH *et al*. Global incidence of acute pancreatitis is increasing over time: a systematic review and meta-analysis. *Gastroenterology* 2022; **162**: 122–34.
3. Hupfeld L, Pommergaard HC, Burcharth J, Rosenberg J. Emergency admissions for complicated colonic diverticulitis are increasing: a nationwide register-based cohort study. *Int. J. Colorectal Dis*. 2018; **33**: 879–86.
4. Etzioni DA, Mack TM, Beart RW Jr, Kaiser AM. Diverticulitis in the United States: 1998-2005: changing patterns of disease and treatment. *Ann. Surg*. 2009; **249**: 210–7.
5. Vather R, Broad JB, Jaung R, Robertson J, Bissett IP. Demographics and trends in the acute presentation of diverticular disease: a national study. *ANZ J. Surg*. 2015; **85**: 744–8.
6. Trivedi H, Usmani A, Skef W, Shuja A. Diverticulitis causing pancreatitis: an unusual case. *Am. J. Gastroenterol*. 2014; **109**: S84.
7. Amjad W, Pervaiz S, Hasan S, Jagroop S. An unusual case of acute pancreatitis with coexisting duodenal diverticulitis: 2404. *Am. J. Gastroenterol*. 2017; **112**: S1309–S10.
8. Sturchler MLL, Rusoja EA, Nagdev A, Simon BC. A rare case of acute right-sided colonic diverticulitis presenting as pancreatitis. *J. Emerg. Med*. 2018; **54**: e77–80.
9. Ahmad M, Bella S, Saleem A. Acute pancreatitis in a patient with left-sided diverticulitis. *Am. J. Gastroenterol*. 2019; **114**: S803.
10. Sinha A, Karia K, Wan D, Jacobson I. Pancreatitis caused by diverticulitis. *Am. J. Gastroenterol*. 2014; **109**: S295.

Ashray Rajagopalan,\*† MBBS(Hons) 

Asiri Arachchi,\*† MBBS, FRACS

Yeng Kwang Tay,\*† MBBS, FRACS

Thang Chien Nguyen,\*† MBBS, FRACS

\*Department of Colorectal Surgery, Monash Health, Melbourne, Victoria, Australia and †Department of Surgery, School of Clinical Sciences at Monash Health, Monash University, Melbourne, Victoria, Australia

doi: 10.1111/ans.17549