Sealed perforation of jejunoileal diverticulitis: a case report

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ABSTRACT
We report a case of sealed perforation of jejunoileal diverticulitis in an 88-year-old man presented with transient abdominal pain. An urgent computed tomography of the abdomen and pelvis showed foci of extra-luminal free air suspected of perforation. The patient was treated with intravenous antibiotics and regular follow-ups. He recovered after 2 months of conservative treatment.

Key words: Abdominal pain; Diverticulitis; Ileum; Jejunum

CASE PRESENTATION
In March 2020, an 88-year-old Chinese man presented to the emergency department with a 1-day history of fever, lethargy, and transient abdominal pain that had subsided upon arrival. The patient had mild dementia. He had a history of an infarct at the left middle cerebral artery secondary to atrial fibrillation and complicated with minimal expressive dysphasia. He was taking rivaroxaban for his atrial fibrillation. He also has chronic kidney disease (stage 3 to 4). He was taking rivaroxaban for his atrial fibrillation. He also has chronic kidney disease (stage 3 to 4). He was transferred to the acute geriatric ward for further investigations owing to raised inflammatory markers: white blood cell count (13.7 × 10^9/L), absolute neutrophil count (12.7 × 10^9/L), C-reactive protein level (74.7 mg/L), procalcitonin level (25.7 µg/L), and lactate level (1.65 mmol/L).

In view of the transient peri-umbilical and left-sided abdominal pain for 3 days with mild tenderness, an urgent computed tomography of the abdomen and pelvis was performed, which showed foci of extra-luminal free air suspected of perforation (Figure). The patient was diagnosed with sealed perforation of jejunoileal diverticulitis and was prescribed with intravenous antibiotics and regular follow-ups. At the 2-month follow-up, the patient had recovered completely.

DISCUSSION
In Singapore, the hospital admission rate for older adults is approximately 12.4%, which is consistent with the 9% to 15% in Europe. Acute abdominal pain is a common presentation in emergency department. Accurate diagnosis can easily be missed in older adults owing to comorbidities.

Diverticular disease is a common chronic disease; its incidence increases with age. Risk factors include genetic alterations, diet and lifestyle variations (smoking, obesity, low fibre and high meat diet), and different colonic motility. Diverticulitis accounts for 6% of abdominal pain cases presented to emergency department and usually occurs in the colonic region. Jejunoileal diverticulosis is uncommon. It may present...
with complications such as bleeding, perforation, intestinal obstruction, blind loop syndrome, and intractable prolonged abdominal pain.¹³

Presentation in older adults is usually atypically, even in life-threatening conditions, and can lead to higher mortality rates.⁴ If the diagnosis is missed, the mortality rate can be as high as 45% in those aged >65 years.⁵ Jejunoileal diverticulitis can be asymptomatic,⁶ although surgical intervention is required in 15% of cases.³

Diagnostic tools for diverticulitis include tests for inflammatory markers, particularly C-reactive protein. Faecal calprotectin can be a reliable marker for subclinical inflammation of the intestine.⁷ Computed tomography is more accurate in diagnosing diverticulitis (up to 57%) than ultrasonography and thus is preferred.⁸ Nonetheless, ordering computed tomography of the abdominopelvic region based on high C-reactive protein and white blood cell levels alone is debatable. Signs/symptoms should also be considered to increase the positive predictive value.⁹ Colonoscopy is the gold standard.

Most diverticulitis involving the jejunoileal region can be treated conservatively with careful monitoring for complications (such as massive per rectal bleeding, perforation, and intestinal obstruction) that warrant surgical management. However, risks and benefits have to be weighted. Conservative management is preferred when perforation is sealed or localised, although one third of all cases of acute abdominal pain require immediate surgical intervention.⁴

CONTRIBUTORS

All authors designed the study, acquired the data, analysed the data, drafted the manuscript, and critically revised the manuscript for important intellectual content. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

CONFLICTS OF INTEREST

All authors have disclosed no conflicts of interest.

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DATA AVAILABILITY

All data generated or analysed during the present study are available from the corresponding author on reasonable request.

ETHICS APPROVAL

The patient was treated in accordance with the tenets of the Declaration of Helsinki. The patient provided written informed consent for all treatments and procedures and for publication.

REFERENCES