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Case Report

Jejunal diverticulosis: A rare diagnosis with serious complications ☆,☆☆

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ABSTRACT

Diverticula of the jejunum is a rare but real disease with various manifestations. The diagnosis is often missed due to a lack of awareness, leading to delays and added complications, and consequently increased morbidity and mortality. Management remains controversial, ranging from a conservative approach that recommends rest, analgesics with close monitoring even for mildly complicated cases, to an aggressive approach justified by the increased risk of complications.

We report the case of a 40-year-old woman with no significant medical history who presented with recurrent left abdominal pain. A CT-scan revealed multiple jejunal diverticula, some of which were inflamed, leading to a final diagnosis of jejunal diverticulitis. This case discusses the clinical presentation, complications, diagnosis and management of this condition.

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Introduction

Jejunal diverticulosis is a recognized disease often confirmed intraoperatively or postmortem. The disease was first reported in the literature by Sommevit in 1794 [1]. Usually presenting with nonspecific or asymptomatic course, its diagnostic is challenging, especially due to the lack of awareness of its existence, often leading to its exclusion from the differential diagnosis of acute abdominal pain. Diagnosis may be achieved

by endoscopy, enteroclysis, or computed tomography, with the latter being more available and accessible in emergency settings [2]. Consensus on therapy remains elusive, and treatment should be tailored to the patient's symptoms and complications.

Case report

A 40-year-old woman with no significant medical history complained of recurrent, ambiguous abdominal pain that has

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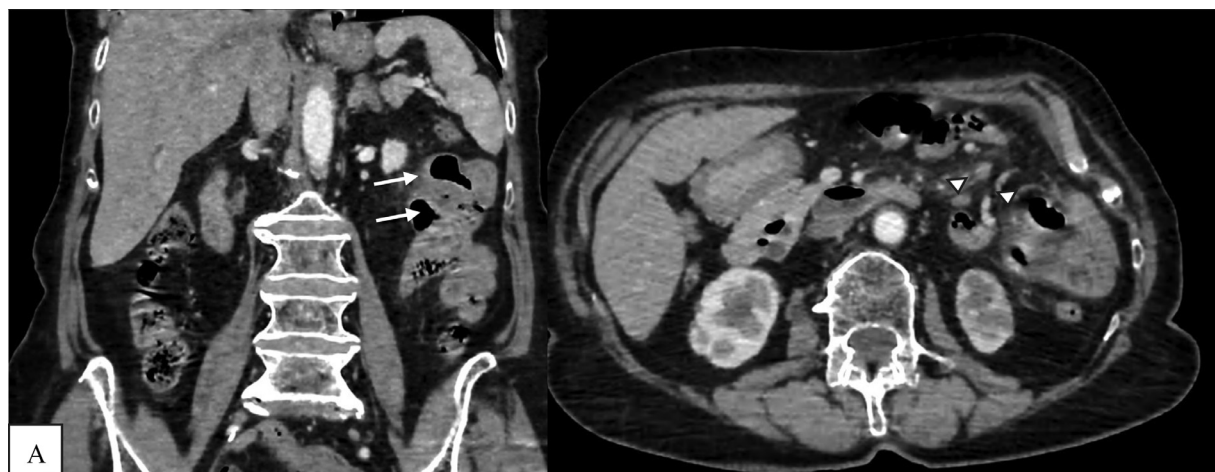


Fig. 1 – Coronal CT-scan revealing 2 large diverticula appended to the wall of the jejunum in the left upper abdominal quadrant having a thickened wall (arrow). Axial CT-scan exhibiting the stranding of the adjacent mesenteric fat associated with some enlarged lymph nodes (B).

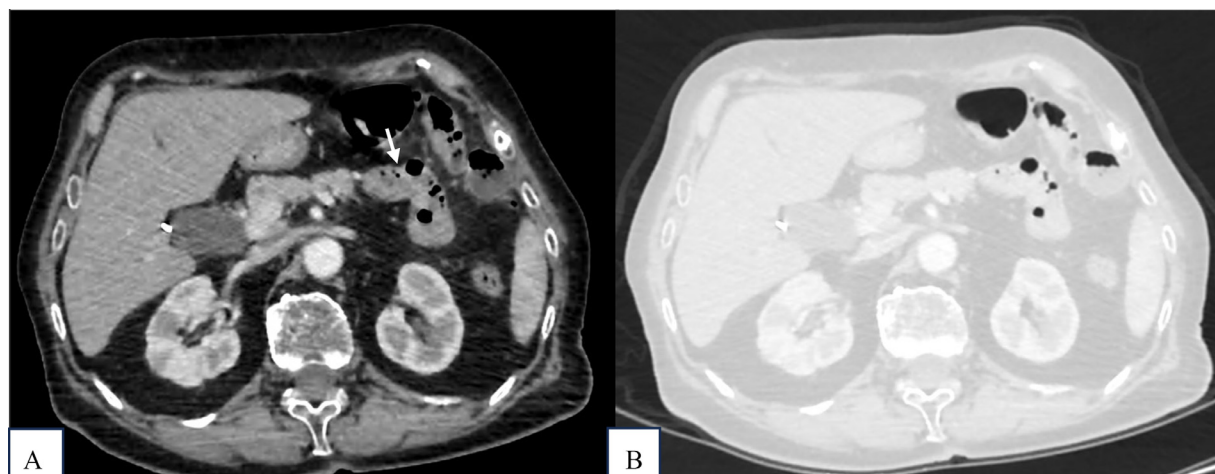


Fig. 2 – Axial CT-scan showing associated small air-filled diverticula of the jejunal wall. Lung window helps identifying the air-filled pouches within the jejunal wall and excludes a pneumoperitoneum.

lasted for 2 years, exacerbated during certain intervals, particularly when she consulted. Clinical examination was unremarkable, and blood tests revealed only a mild inflammatory syndrome. An abdominal-ultrasound, performed as the first modality to exclude an abdominal emergency, was normal. Both esophageal fibroscopy and colonoscopy conducted to investigate the digestive tract for insidious bleeding, showed no abnormality. Given the persistence of the abdominal pain and to complete the full work-up, a CT-scan was performed and revealed multiple small air-filled, thin-walled pouches attached to the jejunal wall, along with 2 larger pouches. The latter had thickened wall and were associated with stranding of the adjacent mesenteric fat and enlarged lymph nodes (Figs. 1 and 2). There was no pneumoperitoneum. The diagnosis of diverticulitis was confirmed, and the patient was treated with antibiotics and analgesics. She was discharged 2 days later with a good recovery.

Discussion

Jejunal and ileal diverticulosis, along with stomach diverticulosis, are among the least common types of gastrointestinal diverticulosis, collectively accounting for approximately 0.9% to 1% of cases. This condition mainly occurs in older adults and is rarely suspected as a cause of abdominal pain, leading to diagnostic delays. There are some reports of its identification in younger individuals and a slight male preponderance.

They represent small, thin-walled masses without a muscle layer. The pathophysiology is considered multifactorial, involving intestinal driving forces from luminal content and peristaltic muscle contractions, along with sites of weakness in the wall at areas where blood vessels penetrate, leading to herniation of the mucosa and submucosa. This

explains their presence exclusively on the mesenteric side [3–5].

It may present in various clinical scenarios, ranging from incidental findings to emergencies requiring prompt intervention. Symptoms include vague abdominal pain, distension, nausea, and bleeding, which may go unnoticed or present as a microcytic hypochromic anemia. The nonspecificity of these symptoms and their overlap with other abdominal diseases make the diagnosis more challenging.

Symptomatic forms occur in 60% of cases and often present chronically with malabsorption and intestinal motility abnormalities. Acute forms include various complications, such as low-grade fever in diverticulitis, moderate to severe sepsis with abscess formation, and acute surgical abdomen if perforation occurs. Hemorrhage, volvulus, intussusception, and intestinal obstruction are also rare but possible reported acute complications [6].

Obstruction may be caused by adhesions secondary to prior inflammation, volvulus, intussusception, or a large compressive diverticulum. Incidental imaging finding in asymptomatic patients describe small ovoid or round, fluid-, air-, or contrast-filled structures that are extra-luminal and connected to the bowel lumen. The modality of choice for diagnosing this condition is enteroclysis, which allows bowel distension through methylcellulose, though of limited usefulness in acute sittings.

Around 50% of patients with jejunal and ileal diverticulosis also have associated colonic diverticulosis, which is more commonly known and easily recognized. This can serve as a warning sign in highly suspicious cases. Using a lung window for interpretation on CT-scan may help identify air appended to the intestinal wall within diverticula, as well as within the peritoneum in cases of perforation. Stranding of adjacent mesenteric fat with enlarged lymph nodes and acute pain support the diagnosis of diverticulitis.

There is still no consensus on the management of jejunal diverticulosis in the literature. The majority of cases are asymptomatic or mildly symptomatic and resolve spontaneously or with a conservative approach, treating complications as they arise. Some teams suggest aggressive therapy with resection, citing an increased risk of perforation compared to other forms of non-Meckelian diverticulosis. However, there are reports of conservative management in localized perforation, which have been well tolerated, highlighting the potential for integration into the therapeutic algorithm [6–8]. This conservative management consists of antibiotic and intestinal rest.

One of the therapeutic challenges in cases of perforation is the difficulty in identifying the diverticulum causing perforation. In such situations, management involves abdominal washout, closure of the abdomen, and wide drainage. Other cases of acutely managed diverticulosis require jejunal resection, with the length of resection depending on the involved segment and the patient's clinical condition. Significant rates of morbidity and mortality, up to 30% and 4% respectively, have been reported, often due to diagnostic delays and the chosen treatment. It is suggested to manage chronic symptoms in chronic forms of diverticula with analgesics and intestinal motility regulators [9]. Overall, the therapeutic approach is based on observation for asymptomatic cases, di-

etary modifications combined with analgesics and antispasmodics in symptomatic uncomplicated cases. Symptomatic complicated cases require antibiotics either with or without surgical intervention, which may involve either resection of the affected segment or diverticulectomy.

Conclusion

Jejunal diverticulosis is an uncommon condition and often presents with few symptoms, making it challenging to diagnose and manage due to limited available data. Its clinical presentation overlaps with various other conditions, requiring a high level of suspicion for accurate diagnosis. Despite the lack of consensus, jejunal diverticulosis is primarily similar to colonic diverticulosis in terms of its potential for complications; however, it differs in the absence of typical symptoms and the nature of those complications.

Data availability

The published data are available. Supplementary material can be provided if needed.

Authors contribution

All authors participated actively to elaboration of this scientific document:

The first author, who's the correspondent 1: elaborated the manuscript.

The others revised and approved it.

The last author diagnosed and validated the case.

Patient consent

Informed consent has been obtained for the publication of this document from the patient. The information within the manuscript is anonymized.

REFERENCES

- [1] Woods K, Williams E, Melvin W, Sharp K. Acquired jejunoileal diverticulosis and its complications: a review of the literature. *Am Surg* 2008;74(9):849–54.
- [2] Matli VVK, Thoguluva Chandrasekar V, Campbell JL, Karanam C, Jaganmohan S. Jejunal diverticulitis: a rare diverticular disease of the bowel. *Cureus* 2022;14(1):e21386.
- [3] Kassahun WT. Complicated small-bowel diverticulosis: A case report and review of the literature. *WJG* 2007;13(15):2240.
- [4] Patel VA, Jefferis H, Spiegelberg B, Iqbal Q, Prabhudesai A, Harris S. Jejunal diverticulosis is not always a silent spectator: a report of 4 cases and review of the literature. *WJG* 2008;14(38):5916.

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- [5] Koger KE, Shatney CH, Dirbas FM, McClenathan JH. Perforated jejunal diverticula. *Am Surg* 1996;62(1):26–9.
 - [6] Chung D. Jejunal diverticulosis: a case series and literature review. *Ann Med Surg* 2022;75:103477.
 - [7] Makris K, Tsiotos GG, Stafyla V, Sakorafas GH. Small intestinal nonmeckelian diverticulosis. *J Clin Gastroenterol* 2009;43(3):201–7.
 - [8] Nightingale S, Nikfarjam M, Iles L, Djeri M. Small bowel diverticular disease complicated by perforation. *ANZ J Surg* 2003;73(10):867–9.
 - [9] Tan KK, Liu JZ, Ho CK. Emergency surgery for jejunal diverticulosis: our experience and review of literature: surgery for jejunal diverticulosis. *ANZ J Surg* 2011;81(5):358–61.