

Jejunal volvulus as an uncommon cause of intestinal occlusion, case report.

Volvulo de yeyuno como causa infrecuente de oclusion intestinal. Reporte de caso.

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ABSTRACT

Midgut volvulus is a significant surgical condition in pediatric practice. However, although its incidence in adults is low, it can occur in this age group, with predominant risk factors such as adhesions secondary to previous abdominal surgeries. Computed tomography, a widely accessible imaging study today, plays a key role in diagnosis, although it is not the definitive method. Among its suggestive findings, the 'whirlpool sign' stands out. This report presents the case of an octogenarian patient with a history of abdominal surgery who developed a jejunal volvulus, a condition rarely documented in the medical literature. Emphasis is placed on her clinical presentation, key diagnostic findings, and therapeutic approach.

KEY WORDS: Volvulus, small intestine, obstruction, mesentery.



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RESUMEN

El vólculo del intestino medio es una entidad quirúrgica relevante en la práctica pediátrica. Sin embargo, aunque su incidencia en adultos es baja, puede presentarse en este grupo etario, con factores de riesgo predominantes como las adherencias secundarias a cirugías abdominales previas. La tomografía computarizada, un estudio de gabinete de fácil acceso en la actualidad, desempeña un papel clave en el diagnóstico, aunque no es el método definitivo. Entre sus hallazgos sugestivos destaca el signo de “remolino”. Se presenta el caso de una paciente octogenaria con antecedente de cirugía abdominal, quien desarrolló un vólculo de yeyuno, una entidad poco documentada en la literatura médica. Se enfatizan su cuadro clínico, los hallazgos clave para el diagnóstico y el abordaje terapéutico.

PALABRAS CLAVE: Vólculo, Intestino delgado, Oclusión, mesenterio.

Introduction

Jejunal volvulus is a rare surgical condition, accounting for approximately 1% of intestinal obstructions in this segment. It is defined as the twisting of the small intestine around its mesentery, which can lead to mechanical obstruction, vascular compromise, or both (Martín *et al.*, 2014; Evola *et al.*, 2022).

The annual incidence in North America and Western Europe ranges between 1.7 and 5.7 cases per 100,000 inhabitants. At the same time, in regions such as Africa, Asia, the Middle East, and India, it varies between 24 and 60 cases per 100,000 inhabitants. Associated mortality ranges from 9% to 35%, but it can reach up to 100% in cases of intestinal necrosis (Evola *et al.*, 2022).

Small intestine volvulus can be classified as primary or secondary. Primary volvulus occurs in the absence of preexisting anatomical abnormalities, whereas secondary volvulus develops as a consequence of various anatomical conditions, including congenital anomalies, bands, adhesions, and tumors. Among these factors, postoperative adhesions represent the main predisposing cause (Evola *et al.*, 2022).

Abdominal computed tomography (CT) is currently the reference test for diagnosis. In this context, the “whirlpool sign,” first described in 1992, is characteristic of midgut volvulus and occurs due to the twisting of the superior mesenteric vein, its tributaries, mesenteric fat, and branches of the superior mesenteric artery around it (Mena & Bellora, 2015).

Jejunal volvulus is a rare cause of intestinal obstruction in adults, with few documented cases in the medical literature. This report presents the clinical case of a 72-year-old female patient from the coastal region of Nayarit, with a history of long-standing hypertension and a previous hysterectomy, who presented with a nonspecific intestinal obstruction. After an initial evaluation, surgical management was decided upon, identifying a jejunal volvulus as the cause of the obstruction, with a favorable postoperative outcome.

Case presentation

A 72-year-old female patient with a history of cervical uterine cancer and an abdominal hysterectomy performed in 2017 as a secondary treatment, as well as systemic arterial hypertension under medical management.

The condition began 12 hours prior to admission to the emergency department, with abdominal pain localized in the mesogastrium, left hypochondrium, and left flank, rated 9/10 on the Visual Analog Scale (VAS). The pain radiated to the ipsilateral lumbar region and was accompanied by vomiting of gastroalimentary content, upper abdominal distension, and absence of gas passage.

Upon admission to the emergency department, a diagnosis of intestinal obstruction was established. As part of the diagnostic approach, a non-contrast abdominal computed tomography (CT) scan was performed (Figure 1), revealing: free fluid in both paracolic gutters, extending bilaterally to the subdiaphragmatic space; inflammatory changes in the small bowel mesentery in the right hemiabdomen, leading to dilated bowel loops with thickened and edematous walls, likely secondary to adhesions.



Figure 1. In the non-contrast computed tomography (CT) scan performed on the patient, the “whirlpool” sign was identified, characteristic of intestinal volvulus.

Therapeutic Intervention

A decision was made to perform an exploratory laparotomy, which revealed the following findings: the abdominal cavity contained approximately 700 cc of fetid inflammatory fluid, with jejunum loops rotated around their axis (Figure 2), color changes (Figure 3), and loss of viability. Since there was no improvement or recovery after detorsion, a resection of the affected intestinal segment was performed, followed by a manual end-to-end enteroenteric anastomosis in a single layer using absorbable sutures. Approximately 100 cm of small intestine was resected.



Figure 2. Intraoperative photograph showing the mesentery twisting around its own axis.

Follow-up and Outcomes

In the postoperative period, the patient was initially managed with fasting, followed by the initiation and progression of enteral feeding, which was well tolerated. Medical treatment included fluid maintenance with intravenous solutions, analgesia, and antibiotic therapy. After a favorable evolution and adequate recovery, the patient was discharged without complications.



Figure 3. Intraoperative photograph showing a cluster of intestinal loops (small intestine) that did not regain their normal characteristics after detorsion.

Discussion

The small bowel volvulus is an infrequent condition, more common in childhood, primarily in infants. It can be classified as primary or secondary. It is defined as primary when it occurs without preexisting anatomical abnormalities, whereas it is considered secondary when it results from a variety of anatomical pathologies (Tsang *et al.*, 2019).

One of the most common predisposing factors for its development is adhesions, both postoperative and congenital (Evola *et al.*, 2022). In the region where this case occurs, the overall incidence is very low despite the high number of surgical procedures currently performed.

Small bowel volvulus is often diagnosed intraoperatively due to the lack of specific signs and symptoms (Alsaif *et al.*, 2021).

The “whirlpool” sign on CT imaging, observed during the diagnostic approach in this patient, is not an essential radiological sign for surgical decision-making but strongly suggests a diagnosis of midgut volvulus (Mena & Bellora., 2021), as was the case with this patient. Other signs that can be identified on a CT scan include small bowel dilation and circumferential wall thickening (Vidal *et al.*, 2022). Some studies indicate that the diagnostic accuracy of CT imaging in such cases is approximately 50% (Alsaif *et al.*, 2021).

The treatment of jejunal volvulus is mostly surgical; however, the choice of procedure (e.g., detorsion, resection, anastomosis, stoma creation, etc.) depends on the viability of the volvulated intestinal segment and the patient's overall condition. Surgical procedures for treatment are divided into resective and non-resective. Non-resective surgical options include detorsion with mesoplasty, which has a high recurrence rate; therefore, resective procedures are currently preferred (Hidalgo *et al.*, 2020).

Early identification of the clinical presentation and its potential complications allows for timely diagnosis and treatment, helping to reduce the risk of complications associated with this condition.

In this context, the publication of our findings in a scientific journal is of fundamental importance, as it contributes to the knowledge and recognition of this rare clinical entity in the adult population. Disseminating this case not only allows us to share the diagnostic and therapeutic experience but also serves as a reference for other healthcare professionals when facing similar situations. Scientific communication is an essential tool for improving the approach to rare diseases, optimizing clinical management, and promoting evidence-based medical updates.

Ethical Considerations

a) Informed Consent

Informed consent was not obtained from the patient presented in this case. However, all identifying information and images that could lead to patient identification have been completely removed.

b) Conflicts of Interest and Relevance

The authors declare no conflicts of interest.

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