

Wilkie's Syndrome: A Rare Cause of Duodenal Obstruction

Síndrome de Wilkie: Uma Causa Rara de Obstrução Duodenal

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A 20-year-old male presented to the Emergency Department with epigastric abdominal pain, nausea, and persistent vomiting for two days. He reported post-prandial fullness and intermittent vomiting for two years, which had progressively worsened, along with a weight loss of approximately 50 kg over six months. He was recently diagnosed with type 1 diabetes, with an HbA1c of 9.8% (reference range [RR]:4.3%–6.1%). On admission, he showed signs of dehydration and a body mass index of 15.2 kg/m². Laboratory tests revealed acute kidney failure, with urea at 138 mg/dL (RR:<50 mg/dL), creatinine at 2.69 mg/dL (RR:0.55–1.02 mg/dL), and hypokalemia (2.88 mmol/L; RR:3.5–5.1 mmol/L).

A computed tomography (CT) evidenced marked distension of the distal esophagus, stomach, and proximal duodenum, with an abrupt narrowing at the crossing

with the superior mesenteric artery (Figs. 1 and 2). The aortomesenteric angle was reduced to 15° and the distance to 5 mm, findings suggestive of Wilkie's syndrome. The patient was managed conservatively over three weeks with electrolyte and fluid correction, gastric decompression via a nasogastric tube, and peripheral parenteral nutrition, followed by the gradual reintroduction of an oral diet. He was discharged with outpatient follow-up and weight monitoring.

Wilkie's syndrome, also known as superior mesenteric artery (SMA) syndrome, is a rare cause of intestinal obstruction in which the third part of the duodenum is extrinsically compressed by the SMA at its origin.¹ This syndrome most commonly affects young patients who have experienced significant weight loss, leading to the depletion of perivascular and retroperitoneal

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fat, narrowing the aortomesenteric angle, and causing external duodenal compression between the SMA and the aorta.²⁻⁴ Diagnosis is challenging and often delayed due to its insidious presentation, requiring high clinical suspicion, with imaging necessary for confirmation.^{1,3,4} Treatment is typically conservative, with surgery reserved for refractory cases.¹⁻⁴

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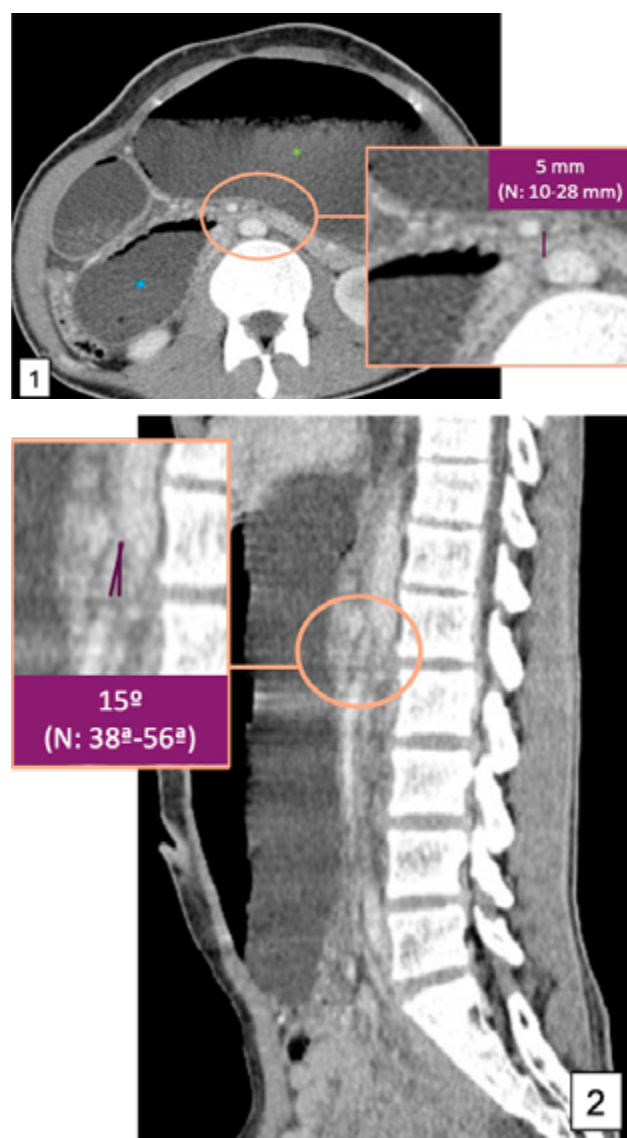
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FIGURES 1-2. Wilkie's syndrome: Contrast-enhanced CT images show marked distention of the stomach (green asterisk) and proximal duodenum (blue asterisk), with an abrupt cut-off at the point where the superior mesenteric artery crosses the third portion of the duodenum (orange circles). Note the narrowing of both the aortomesenteric distance and angle.

REFERENCES

1. Claro M, Sousa D, Abreu da Silva A, Grilo J, Martins JA. Wilkie's syndrome: an unexpected finding. *Cureus*. 2021;13:e20413. doi: 10.7759/cureus.20413.
2. Oka A, Awoniyi M, Hasegawa N, Yoshida Y, Tobita H, Ishimura N, et al. Superior mesenteric artery syndrome: Diagnosis and management. *World J Clin Cases*. 2023;11:3369-84. doi: 10.12998/wjcc.v11.i15.3369.
3. Zaraket V, Deeb L. Wilkie's syndrome or superior mesenteric artery syndrome: fact or fantasy? *Case Rep Gastroenterol*. 2015;9:194-9. doi: 10.1159/000431307.
4. Mathenge N, Osiro S, Rodriguez I, Salib C, Tubbs R, Loukas M. Superior mesenteric artery syndrome and its associated gastrointestinal implications. *Clin Anat*. 2014;27:1244-52. doi: 10.1002/ca.22249.