

PICTURES IN DIGESTIVE PATHOLOGY

Paraesophageal hernia and gastric volvulus: an uncommon etiology of vomiting and upper gastrointestinal bleeding

Gonçalo Nunes¹, Marta Patita¹, Vítor Fernandes¹ and Jorge Fonseca^{1,2}

¹Gastroenterology Department. Hospital Garcia de Orta. Almada, Portugal. ²CiiEM - Centro de Investigação Interdisciplinar Egas Moniz. Monte da Caparica, Portugal

CASE REPORT

A 75-year-old woman was admitted to the Emergency Room with abdominal pain and coffee ground vomiting persisting for three days and presented marked epigastric distension and tenderness. Laboratory analysis revealed dehydration with kidney injury (creatinine 2.8 mg/dl), hypokalaemia (K⁺ 2.6 mmol/l) and hypernatremia (Na⁺ 148 mmol/l). Endoscopy showed a black esophagus covered with dark fluid, hyperaemia and erosions (Fig. 1), a large paraesophageal hernia and marked distortion of gastric anatomy caused by stomach rotation (Fig. 2). Nine liters of gastric fluid were aspirated and the pylorus was not identified. X-ray and CT scan confirmed the presence of an organoaxial gastric volvulus with antero-superior rotation and incarceration of the gastric antrum, located above the diaphragm (Fig. 3). Emergency surgery repaired the diaphragmatic hernia, achieved volvulus reduction and a Nissen fundoplication was performed to prevent recurrence. The patient was discharged without any complications.

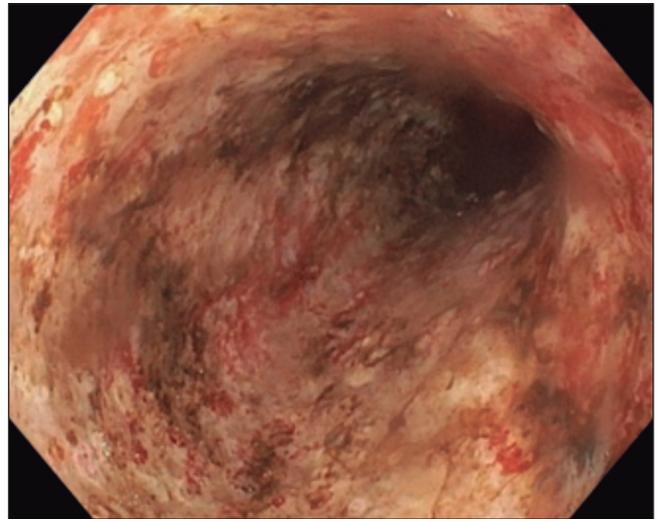


Fig. 1. "Black esophagus" caused by marked regurgitation of gastric contents. Diffuse hyperaemia and scattered superficial erosions were also identified.

DISCUSSION

Gastric volvulus is an uncommon entity defined by abnormal rotation of the stomach of more than 180 °C,

creating a closed-loop obstruction that may result in incarceration and organ necrosis. Three types of volvulus are classically described: organoaxial, mesenteroaxial and

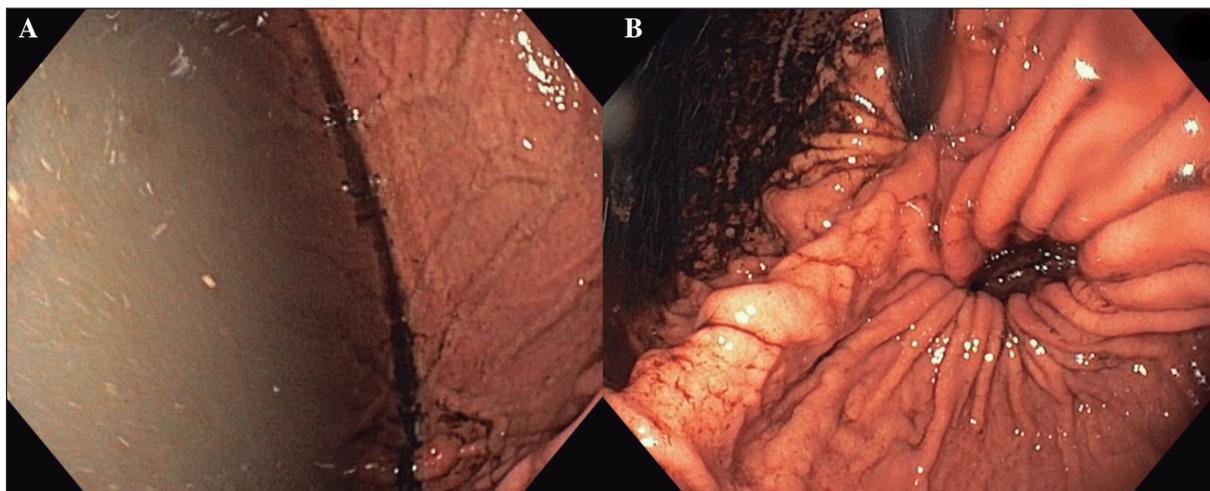


Fig. 2. Marked distortion of gastric anatomy caused by stomach rotation and a large paraesophageal hernia (B). A large amount of gastric content was aspirated (A) and the pylorus was not identified, suggesting gastric outlet obstruction caused by gastric volvulus.

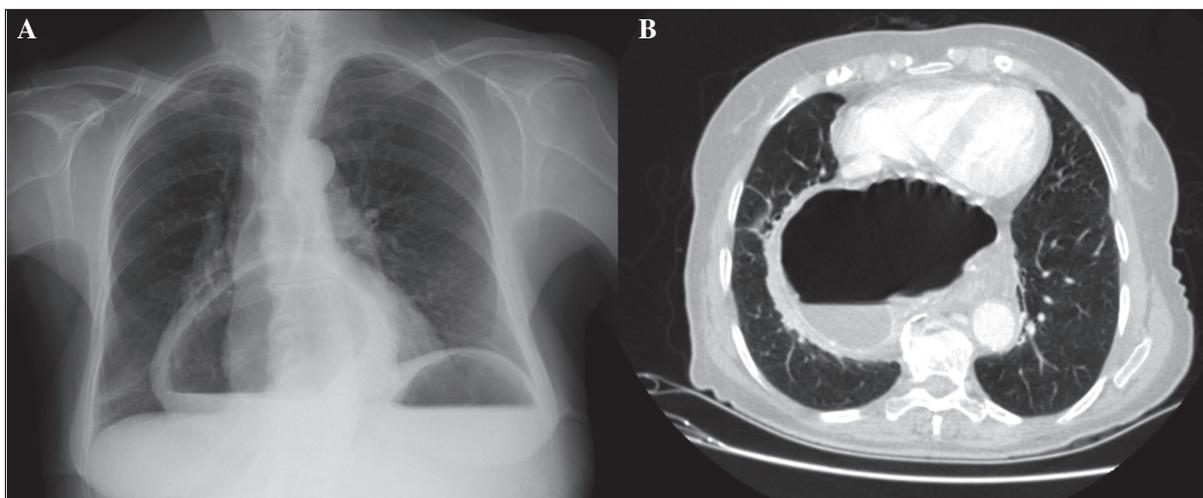


Fig. 3. Chest radiograph (A) and CT scan (B) showing a massive gastric distension with antero superior rotation and incarceration of the gastric antrum, which is located above the diaphragm and compresses the heart chambers. These aspects were suggestive of organoaxial gastric volvulus.

the very rare combined type (1). The organoaxial subtype accounts for 59% of patients and usually coexists with diaphragmatic defects and hiatal hernia (1). Vomiting often occurs due to gastric outlet obstruction and bleeding results from mucosal ischemia and sloughing. Emergency surgery is required to resolve the volvulus and prevent complications as without surgical intervention, an acute organoaxial volvulus has an 80% mortality rate (2). With a modern surgical approach, mortality is reduced to 15-20% (2,3).

REFERENCES

1. Ferrer-Márquez M, García-Díez JM, Parra-Montoya F, et al. Gastric volvulus associated with cardiac tamponade. *Rev Esp Enferm Dig* 2011;103(9):498-500. DOI: 10.4321/S1130-01082011000900015
2. Palanivelu C, Rangarajan M, Shetty AR, et al. Laparoscopic suture gastropexy for gastric volvulus: A report of 14 cases. *Surg Endosc* 2007;21(6):863-6. DOI: 10.1007/s00464-006-9089-4
3. Katkhouda N, Mavor E, Achanta K, et al. Laparoscopic repair of chronic intrathoracic gastric volvulus. *Surgery* 2000;128(5):784-90. DOI: 10.1067/msy.2000.108658