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**Gastric ischemia: cross-sectional imaging findings via a case series**

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**ABSTRACT**

Gastric ischemia is an uncommon, serious, and potentially fatal disease caused by diffuse or focal gastric vascular insufficiency. It can be caused by states of systemic hypotension or disseminated vasculitis or thrombosis, even though the stomach possesses collateral circulation that prevents it from developing to a certain extent. Computed tomography (CT) is the technique of choice to assess the extent of the disease, as it detects parietal hypoenhancement and gastric and/or portal pneumatosis. The treatment required depends on the etiology and ranges from surgery to resuscitation measures. This article presents the imaging findings from a series of three cases of gastric ischemia seen at our hospital.

**CASE REPORT**

We present the imaging findings from a series of three cases of gastric ischemia seen at our hospital.
— A 69-year-old male with multiple diseases, with general deterioration during admission for febrile pneumonia, with incidental findings of gastric pneumatosis signs on different imaging tests (Fig. 1). A limitation of therapeutic effort was decided and the patient died within a few hours.

— An 86-year-old female with multiple myeloma presented with acute abdominal pain and vomiting for the past four days. Imaging tests showed gastric ischemia and portal pneumatosis caused by thickening of the pylorus, resulting in pyloric stenosis. Endoscopy was performed and a biopsy was collected (Fig. 2). The final pathology diagnoses were gastric ischemia and pyloric amyloidosis. The patient died after a few days.

— A 79-year-old female presented with acute epigastric ‘belt-like’ upper abdominal pain. Imaging tests revealed the presence of gastric ischemia (Fig. 3). Conservative treatment was decided and the patient gradually improved. She had recovered her baseline condition at discharge.

DISCUSSION
Gastric ischemia is an uncommon, serious, and potentially fatal disease caused by diffuse or focal gastric vascular insufficiency (1,2). It can be caused by states of systemic hypotension or disseminated vasculitis or thrombosis, even though the stomach possesses collateral circulation, which prevents it from developing to a certain extent. CT is the technique of choice to evaluate the extent of the disease (1). The treatment required ranges from surgery to resuscitation measures if the patient condition allows it (2,3).

REFERENCES

Fig. 1. Plain chest X-ray (A) and axial image from an abdominopelvic CT scan with intravenous contrast (B). A sheet of air in an antigravity position is seen dissecting the walls of the stomach, producing a "double-line" image in the X-ray detail (A). This was confirmed with more confidence in the CT scan in relation to gastric pneumatosis (white arrows).
Fig. 2. Double-oblique image from an abdominopelvic CT scan with intravenous contrast (A) and upper gastrointestinal endoscopy (B). Signs of portal pneumatosis (white arrowhead) are seen in relation to an overly distended gastric chamber. The walls of the stomach exhibit hypoenhancement and pneumatosis (white arrow) caused by a gastric outlet obstruction secondary to diffuse thickening of the pylorus (black arrow). The endoscopy image shows a necrotic mucosa in the gastric body and antrum, with extensive ulceration and purplish rims around the lesions.
Fig. 3. Magnified plain abdominal X-ray (A), axial image from abdominopelvic CT scan with intravenous contrast (B), abdominal ultrasound in B mode (C), and image from an upper endoscopy in the stomach chamber (D). A subtle portal pneumatosis is seen in the left intrahepatic portal branches on the plain X-ray and CT scan, creating a "comet-tail" reverberation artefact on the ultrasound image (white arrowhead). Parietal pneumatosis and pneumatosis in the gastric drainage veins can be seen around the stomach (white arrow). The endoscopy image shows a purplish-blackish mucosa, with bleeding when rubbed.