



Left Gastric Artery Aneurysm Rupture: Case Report

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ABSTRACT

Introduction: Gastric artery aneurysms are very rare, and no studies have reported a case of gastric artery aneurysm with hiatal hernia.

Case Report: Here we present the case of an 82-year-old female patient with a ruptured aneurysm of the left gastric artery in the hiatal hernia. She had severe chest pain, which expanded to the left abdominal upper quadrant region, and shortness of breath. In the emergency room, computed tomography (CT) revealed left gastric artery aneurysm in the hiatal hernia. Based on these findings, the patient underwent surgery and was cured.

Conclusion: In elderly patients with intraabdominal hemorrhage without trauma, rupture of the gastric artery aneurysm should be considered in the differential diagnosis even if it is rare. In addition to intraabdominal hemorrhage, hemothorax may be present in patients with hiatus hernia and gastric artery aneurysm rupture.

Keywords: Aneurysm, rupture, hiatal hernia, splenic artery, hemorrhage, tomography

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Introduction

Among visceral artery aneurysms, left gastric artery aneurysms are rare (1). Patients present with symptoms of gastrointestinal bleeding or intraperitoneal hemorrhage, which may be fatal and require immediate intervention (2, 3). Treatment modalities include angiographic superselective embolization and surgical treatment (2, 4). Radiologically, ultrasonography (USG) and particularly computed tomography (CT) are used for the diagnosis of left gastric artery aneurysms.

In the English literature, no cases of left gastric artery aneurysms with hiatal hernia have been reported. In this report, CT images of left gastric artery aneurysm with hemothorax and hemoperitoneum were presented.

Case Report

An 82-year-old female patient was admitted to the emergency room with chest pain, left abdominal upper quadrant pain, and shortness of breath. Her medical history had no significant features other than atrioventricular block, hypertension, and gastroesophageal reflux.

On physical examination, vital findings (blood pressure: 140/80 mm/Hg, pulse: 32/min, oxygen saturation: 96%) were stable. Laboratory tests revealed hemoglobin (Hb), 10.4 g/dL; hematocrit (HCT) 30.6 mg/dL; leukocyte count, $9.5 \times 10^3/\mu\text{L}$; serum glutamate oxaloacetate transaminase (SGOT), 23 IU/L; amylase, 76 U/L; and C-reactive protein (CRP), 5.7 mg/L. Abdominal ultrasonography revealed bilateral pleural effusion and intra-abdominal free fluid. Radiologically, a high-density (89 HU) intra-abdom-

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inal free fluid was detected on unenhanced CT scans. Additionally, there was hiatus herniation of the gastric fundus and distal esophagus (Figures 1a and 1b). During the stay period in the emergency department, Hb and HCT values reduced (Hb: 8.4 g/dL, HCT: 24.6 mg/dl); therefore, contrast-enhancement abdominal CT scan was



FIGURE 1. a, b. Non-contrast CT, high-density intra-abdominal free fluid (a); non-contrast CT, hiatus herniation of the gastric fundus and distal esophagus and high-density pleural effusion (b).



FIGURE 2. Contrast-enhanced CT, the left gastric artery aneurysm located in the minor gastric curvature medial segment.

performed. Contrast-enhanced CT revealed a 3x2 cm aneurysm with a mural thrombus in the left gastric artery located in the minor gastric curvature medial segment, which was in the hiatal hernia pouch (Figure 2). The pouch also contained the gastric fundus and distal esophagus. Based on these findings, the patient underwent surgery and was successfully treated with the resection of the aneurysmal segment. Her written consent was obtained before this case report was written.

Discussion

Visceral artery aneurysms originate from the celiac artery, the superior mesenteric artery, the inferior mesenteric artery, and the branches of these arteries (5, 6) and are very rare.

In a study by Sessa et al., in which more than 2500 visceral artery aneurysms were examined, these aneurysms were most commonly detected in the splenic artery (60%) and also in the gastroduodenal arteries (2%) (7). In visceral arteries, true and false aneurysms manifest themselves with a rupture of approximately 25% (8). The most important complication of visceral artery aneurysms is their rupture. The probability of rupture increases with age (6, 9). Gastric artery aneurysms are usually asymptomatic. Our patient was of advanced age and admitted with ruptured symptoms.

Pancreatitis, peptic ulcer, and vasculitis have been reported in the etiology of left gastric artery aneurysms (2, 9). Visceral artery aneurysms are associated with hypertension, atherosclerosis, trauma, and inflammatory causes (3). In our patient, the presence of age-related atherosclerosis and hypertension in her medical history may have caused the aneurysm.

Ultrasonography is the most preferable method in the evaluation of such cases. Aneurysms can be detected and rupture findings of aneurysms can be evaluated using ultrasonography in some patients. CT angiography is used in the diagnosis of additional pathologies (such as intra-abdominal hemorrhage) and in the planning of treatment as well as providing information regarding the aneurysm (such as its diameter, neck, and thrombus). Angiography is used both for diagnosis and for treatment (2, 4). CT angiography has been reported to be a more useful imaging modality than catheter angiography in the evaluation of visceral artery aneurysms (10).

Treatment options include surgical or angiographic embolization. The structure of the aneurysm, clinical condition of the patient, and additional diseases are important in the choice of treatment. Superselective angiographic embolization has provided successful treatments in recent years (2, 4).

Conclusion

In conclusion, contrast-enhanced CT is the most effective diagnostic method for left gastric artery aneurysms and should be considered in the differential diagnosis of patients with intra-abdominal hemorrhage without trauma.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

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