

Splenic Artery Aneurysm: A Jeopardous Condition Mimicking Gastric Subepithelial Lesion – A Case Report

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Abstract

Splenic artery aneurysm is the most frequently encountered visceral artery aneurysm, predominantly affecting women, especially those with a history of multiple pregnancies. This condition, which is mostly asymptomatic, can lead to serious morbidity and mortality if it ruptures. Here, a splenic artery aneurysm detected on endoscopic ultrasonography performed as further examination in a female patient with a subepithelial-like lesion detected during upper endoscopy is presented.

Keywords: Embolization, endoscopic ultrasonography, splenic artery aneurysm, subepithelial lesion

INTRODUCTION

Splenic artery aneurysm (SAA) is characterized by a focal dilation of the splenic artery, surpassing 50% of its normal diameter. SAAs constitute 60%-70% of all visceral artery aneurysms.¹ With improved imaging techniques, the detection rate of SAA has increased. Although frequently asymptomatic, its rupture can cause critical conditions, including acute abdominal pain, hemodynamic instability, and gastrointestinal hemorrhage.² The reported mortality rate post-rupture can reach 25%, escalating to 75% in pregnant individuals.³

Subepithelial lesions (SELs) are frequently identified in routine upper gastrointestinal endoscopy.⁴ Extrinsic compressions from adjacent anatomical structures, including the spleen and its vascular structures, may imitate true intramural SELs, complicating differential diagnosis.⁵ Endoscopic biopsies of vascular anomalies, such as SAAs, pose a significant hemorrhagic risk and should be cautiously approached. Endoscopic ultrasonography (EUS) is essential in distinguishing extrinsic compressions from genuine SELs and guiding appropriate management.^{6,7}

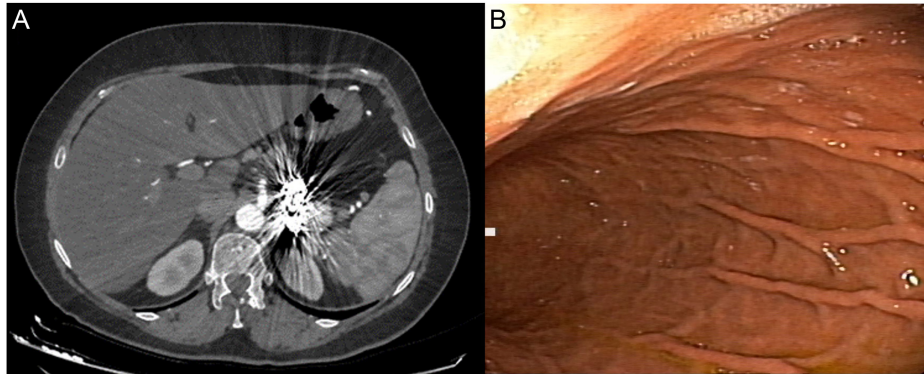
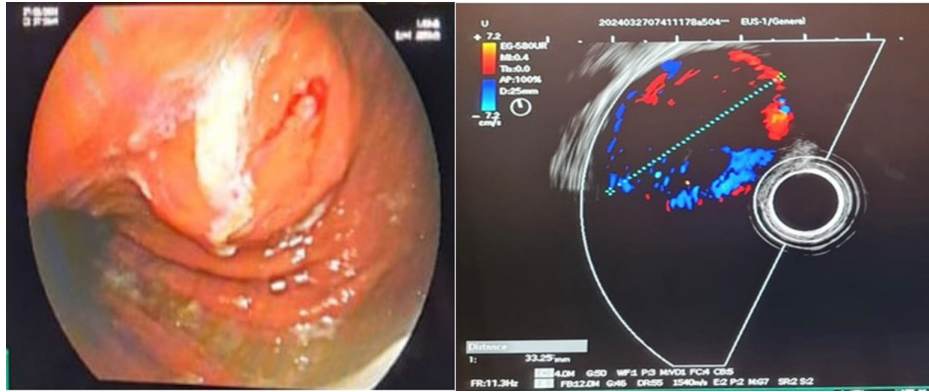
This report presents a case of SAA initially misinterpreted as a subepithelial lesion during endoscopy and highlights the crucial role of EUS in accurate diagnosis and therapeutic decision-making.

CASE PRESENTATION

A 54-year-old female patient presented with persistent epigastric discomfort despite ongoing proton pump inhibitor therapy. Upper gastrointestinal endoscopy revealed a 3 cm, non-pulsatile subepithelial lesion at the lesser curvature of the stomach (Figure 1). Endoscopic ultrasonography assessment demonstrated a 33 × 27 mm anechoic, round lesion exerting external compression on the gastric wall, with Doppler ultrasound confirming its vascular nature. Subsequent computed tomography (CT) angiography identified a 35 × 28 mm aneurysmal dilation in the mid-portion of the splenic artery (Figure 2).

Endovascular embolization was performed. The distal segment of the splenic artery was catheterized using a microcatheter, and embolization was successfully achieved with coil placement and a 14 × 8 mm Amplatzer plug positioned proximally to the aneurysm. Post-procedural CT angiography demonstrated successful exclusion of the aneurysm with preserved distal splenic artery perfusion via collateral circulation (Figure 3A). Follow-up endoscopy revealed the absence of the previously detected lesion (Figure 3B).

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.



- Splenic artery aneurysms (SAAs) can mimic gastric subepithelial lesions on endoscopy, posing a risk of misdiagnosis and inappropriate interventions.
- Gastroenterologists should consider vascular anomalies such as splenic artery aneurysm in the differential diagnosis of gastric subepithelial lesions to avoid unnecessary or risky interventions.
- Endoscopic ultrasonography is a crucial diagnostic tool to differentiate vascular anomalies like SAAs from true subepithelial lesions.
- Endovascular embolization is an effective and minimally invasive treatment method for splenic artery aneurysms.

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Gastrointestinal SELs can originate from different layers of the gastrointestinal wall or may be caused by extrinsic compressions.⁸ Various intra-abdominal structures, such as the liver, pancreas, and lymphadenopathy, can contribute to extrinsic gastric compression mimicking SELs. While many SELs are incidentally detected, accurate differentiation between true intramural lesions and external compressions is critical to avoid unnecessary interventions.⁶ EUS is invaluable in characterizing these lesions, determining their echogenicity, anatomical origin, and vascular features, thus facilitating differentiation between SELs and vascular abnormalities.⁹

Most aneurysms are saccular in shape and measure less than 20 mm in diameter. They are frequently found along the mid or terminal segments

of the splenic artery, particularly near branching points.^{10,11} Although the exact pathophysiology remains unclear, histopathological findings in patients with SAAs often include loss of elastic fibers and smooth muscle cells, as well as structural defects in the tunica media.¹² The development of splenic artery aneurysms has been associated with several underlying conditions, including atherosclerosis, medial degeneration or dysplasia, abdominal trauma, high blood pressure, connective tissue disorders, and necrotizing vasculitides. In comparison, pseudoaneurysms are generally linked to periarterial hematomas that arise secondary to iatrogenic injury or ongoing inflammatory conditions like chronic pancreatitis.¹³

Management strategies for SAA depend on lesion size, symptoms, and rupture risk. Intervention is recommended for aneurysms measuring ≥ 2 cm, symptomatic cases, or rapidly enlarging aneurysms. Endovascular embolization is the preferred approach due to its minimally invasive nature and high success rates, whereas open surgical repair is reserved for complex or ruptured cases.^{2,14}

This case emphasizes the necessity of considering SAA in the differential diagnosis of SELs encountered during upper endoscopy. It highlights the pivotal role of EUS in ensuring accurate assessment, preventing hazardous biopsy attempts, and guiding appropriate therapeutic strategies. Gastroenterologists should maintain a high index of suspicion for vascular anomalies when evaluating subepithelial-like lesions to optimize patient outcomes.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

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

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