



Can segmental branch embolization of the left gastric artery be an alternative in the treatment of recurrent dieulafoy lesion bleeding? A Case report

Tekrarlayan dieulafoy lezyon kanamalarının tedavisinde sol gastrik arter segmental dal embolizasyonu bir alternatif olabilir mi? Olgu sunumu

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Dieulafoy lesions, rare developmental vascular malformations within the gastrointestinal system, present a diagnostic challenge due to their inconspicuous nature. These lesions, primarily located near the esophagogastric junction, can lead to life-threatening bleeding. Although accounting for approximately 1.5-2% of upper gastrointestinal bleeding cases, the exact prevalence remains uncertain. Commonly diagnosed through esophagogastroduodenoscopy, the small size of these lesions often results in oversight during initial endoscopy, necessitating a high index of suspicion, especially in cases of recurrent bleeding. While endoscopic methods are the standard treatment, this case presentation introduces the use of embolization as a rare but effective modality in managing recurrent Dieulafoy lesion bleeding. The presented case underscores the importance of diverse treatment approaches and contributes valuable insights to the medical literature, enhancing the understanding and management of this infrequent yet potentially serious condition.

Key words: Dieulafoy lesion, gastrointestinal bleeding, embolization

Dieulafoy lezyonları, gastrointestinal sistemde nadir görülen gelişimsel vasküler malformasyonlardır ve göze çarpmaları nedeniyle tanıda zorluklar yaşanmaktadır. Bu lezyonlar genellikle özofagogastrik bileşke yakınında bulunur ve yaşamı tehdit eden kanamalara neden olabilir. Üst gastrointestinal kanama vakalarının yaklaşık %1.5-2'sini oluşturduğu düşünülse de, prevalansı belirsizdir. Özofagogastroduodenoskopi ile teşhis edilen bu lezyonların boyutunun küçük olması, genellikle ilk endoskopide gözden kaçmasına neden olur ve özellikle tekrarlayan kanama durumlarında şüphe uyandırmalıdır. Endoskopik yöntemler standart tedavi iken, bu vaka sunumu tekrarlayan Dieulafoy lezyon kanamaları yönetiminde embolizasyonun etkin bir tedavi metodu olarak kullanımını tanıtmaktadır. Sunulan vaka, çeşitli tedavi yaklaşımlarının önemini vurgular ve seyrek ancak potansiyel olarak ciddi olan Dieulafoy lezyonlarının anlaşılmasına ve yönetimine katkıda bulunur.

Anahtar kelimeler: Dieulafoy lezyonu, gastrointestinal kanama, embolizasyon

INTRODUCTION

Dieulafoy lesion is a developmental vascular malformation of the gastrointestinal system. While it is rare, it can potentially lead to life-threatening bleeding. These lesions are typically found within 6 cm of the esophagogastric junction, originating from branches of the left gastric artery, primarily in the proximal fundal region of the stomach (1).

They are less commonly encountered in the esophagus and colon. Although it is believed to account for approximately 1.5-2% of upper gastrointestinal bleeding cases, the exact prevalence in the general population remains uncertain (2). Dieulafoy lesions can cause severe gastrointestinal bleeding as a result of submucosal vascular dilation and vas-

cular rupture. Diagnosis is typically made through esophagogastroduodenoscopy. Due to their small size and inconspicuous nature, these lesions often go undetected during the initial endoscopy. The suspicion of a doctor, especially in cases of recurrent bleeding, increases the likelihood of a diagnosis. Risk factors for bleeding may include the development of gastric atrophy with advancing age, chronic kidney disease, hypertension, liver disease, and the use of non-steroidal anti-inflammatory drugs (3). Treatment often involves endoscopic methods, with rare cases requiring laparotomy. In this case presentation, we shared our experience with embolization treatment in a patient with recurrent Dieulafoy lesion bleeding, a treatment modality that is rarely described in the literature.

CASE REPORT

A 47-year-old female patient presented to our hospital due to recurrent massive upper gastrointestinal bleeding of unknown cause. At the time of admission, her hemoglobin levels were around 9 g/dl, and she had received erythrocyte suspension replacements. Two previous endoscopic examinations had been conducted, with the first showing fresh blood in the stomach but no specific focus identified. Two days later, a follow-up endoscopy was reported as normal. Despite ongoing bleeding, a gastroscopic examination at our center did not reveal active bleeding in the stomach. However, a small, centrally red lesion was observed near the

gastroesophageal junction in the fundal area. Given the clinical presentation, a diagnosis of Dieulafoy lesion was made, and sclerosing agent injection was administered to the lesion area during the same session, followed by the placement of a hemoclip (Figure 1). The patient was followed for an extended period without any complaints, and no signs of bleeding were observed during this time. After more than three years, the patient returned to our center with complaints of weakness, nausea, dizziness, and subsequently bloody vomiting. Her hemoglobin level at admission was measured at 6 g/dl. A gastroscopic examination revealed a substantial amount of pooled and fresh blood within the stomach, with no specific bleeding focus identified. The next day, an endoscopy showed a Dieulafoy lesion-like appearance in the fundus-corpora junction, and two hemoclips were placed. Due to the recurrent and severe nature of the bleeding, alternative treatment options were considered, and the opinion of the interventional radiology department was sought. Subsequently, endovascular embolization was planned for the patient. During the procedure, access was gained through the right femoral artery, the celiac trunk was catheterized, and imaging was obtained. Once the left gastric artery was localized with the acquired image, a microcatheter and wire were used to access the artery. Subsequently, embolization was performed using 300-500 micron embosphere particles in the vascular branch supplying the endoscopic clip area. This



Figure 1 Lesion in the stomach fundus that is approximately 3 mm in size with redness in the center.

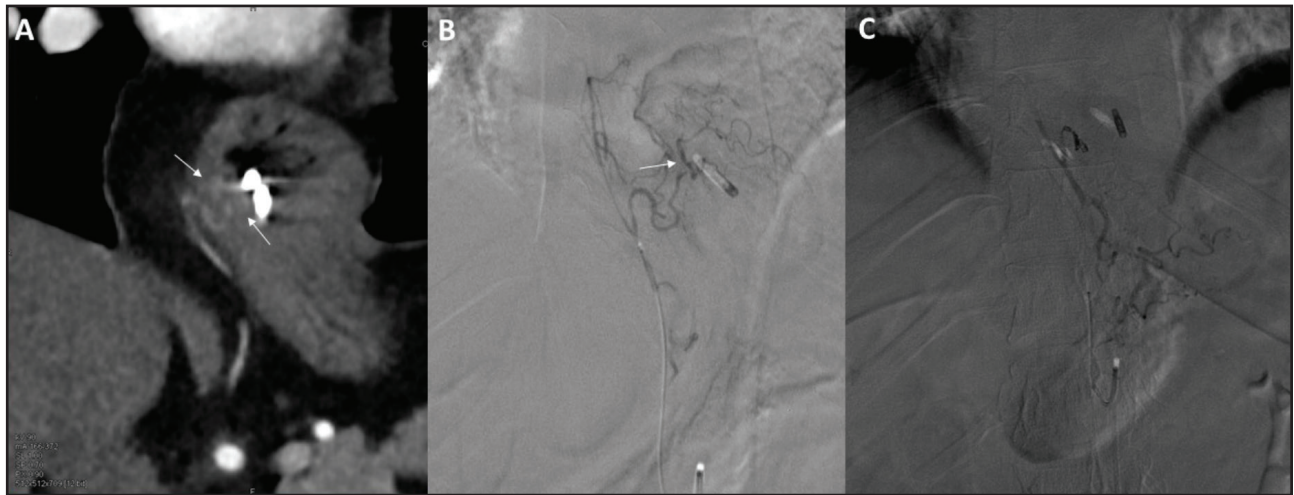


Figure 2 Computed tomography angiography (A) and Digital subtraction angiography (B) images obtained during the non-bleeding period show contour irregularity and slight enlargement (arrows) of the arterial branch that adjacent to the endoscopic clip (C) Digital subtraction angiography image shows occlusion of abnormal arterial branch after embolization with particles and coils.

branch was then embolized with a single coil, and the procedure was concluded at this point (Figure 2). No complications were encountered during or after the procedure. A follow-up endoscopy conducted four months ago revealed a millimetrically erythematous area at the location of the Dieulafoy lesion. No clinical issues have been observed in the patient during the follow-up period. Informed consent was obtained from the patient for this case presentation.

DISCUSSION

Dieulafoy lesions are sometimes challenging to diagnose, can be overlooked, and can potentially cause severe bleeding and death. The primary treatment option that should be applied is endoscopic therapy. Commonly used endoscopic treatments include injection, ablation, and mechanical therapies. Injection treatments involve the application of local epinephrine, sclerotherapy, and cyanoacrylate to the lesion and its surroundings (4,5). Ablation therapy includes thermocoagulation, argon plasma coagulation, and electrocoagulation. Argon plasma coagulation is a method that does not require con-

tact with the lesion; it delivers an electric current to the tissue through ionized argon gas. Mechanical therapy involves band ligation and the use of endoscopic clips. Studies have shown the success of band ligation in the treatment of Dieulafoy lesions (6,7). Another meta-analysis has indicated that there is no significant difference between hemoclipping and band ligation, but more research is needed (7). In cases where patients do not respond to endoscopic hemostatic methods, embolization can be considered. While there is some mention of the use of this method in the literature, the information is limited. There is no definitive information available regarding the outcomes of this treatment method. Despite the risk of ischemia developing in the region supplied by the artery involved in all such interventions, embolization treatments have become an important tool in many areas today (8,9). In this patient, successful embolization with microsphere particles and coils was performed in the distal and segmental branches of the left gastric artery for recurrent Dieulafoy lesion bleeding. No bleeding was observed in the patient within a year, and a follow-up gastroscopy revealed only

mild erythema in the lesion area. We believe that this treatment can be successfully used by experienced physicians in suitable patients.

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