

# Colonic Dieulafoy's Lesion: An Uncommon Cause of Lower Gastrointestinal Bleeding

## *Lesão de Dieulafoy do Cólon: Uma Causa Rara de Hemorragia Digestiva Baixa*

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### RESUMO

A lesão de Dieulafoy é uma causa rara, mas potencialmente fatal, de hemorragia gastrointestinal, habitualmente no estômago, incomum em localizações extragástricas, como no cólon. Embora a endoscopia seja o *gold-standard* para diagnóstico, este pode ser desafiante pelo pequeno tamanho da lesão, hemorragia intermitente ou localização de difícil acesso. Nestes casos, a tomografia computadorizada com contraste demonstrou um papel fundamental na identificação da causa de hemorragia e localização da lesão de Dieulafoy, possibilitando um diagnóstico e terapêutica endoscópica célere e eficaz, como ilustrado no caso apresentado.

O diagnóstico desta entidade é desafiante, exigindo elevada suspeição clínica e estreita colaboração multidisciplinar.

**PALAVRAS-CHAVE:** Hemorragia Gastrointestinal; Malformações Arteriovenosas; Tomografia Computorizada

### ABSTRACT

Dieulafoy's lesion is a rare but potentially fatal cause of gastrointestinal bleeding, typically located in the stomach, with even rarer extragastric locations, as in the colon. Although endoscopy is the gold standard for diagnosis, it can be challenging due to the lesion's small size, intermittent bleeding, or inaccessible location. In such cases, contrast-enhanced computed tomography has demonstrated a key role in identifying the source of bleeding and localizing the lesion, enabling prompt and effective endoscopic treatment, as illustrated in the present case. The diagnosis of Dieulafoy's lesion remains challenging and requires high suspicion and close multidisciplinary collaboration.

**KEYWORDS:** Arteriovenous Malformations; Gastrointestinal Hemorrhage; Tomography, X-Ray Computed

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## INTRODUCTION

Dieulafoy's lesion (DL) is a rare vascular anomaly involving a dilated, tortuous submucosal artery that protrudes through a small mucosal defect, potentially causing life-threatening gastrointestinal (GI) bleeding.<sup>1</sup> Although most commonly found in the stomach, extragastric locations like the colon, though rarer, are possible.<sup>2,3</sup> In lower GI bleeding, more common causes like diverticulosis are usually considered first,<sup>2</sup> but DL should be included in the differential, particularly in cases of recurrent or unexplained bleeding.

Diagnosis can be challenging, due to lesion small size, atypical location and intermittent bleeding, limiting endoscopic visualization.<sup>3</sup> In this context, contrast-enhanced computed tomography (CT) can be helpful by identifying the enlarged submucosal vessel or subtle mucosal/submucosal contrast blush, allowing further management.<sup>4</sup>

We present a case of colonic DL, emphasizing its clinical presentation, imaging features, endoscopic correlation, and the importance of multidisciplinary collaboration in its diagnosis and treatment.

## CASE REPORT

An 85-year-old woman with hypertension and atrial fibrillation, under dabigatran, presented to the emergency department with a three-day history of melena. On clinical examination, she was haemodynamically stable, with no abdominal tenderness and preserved bowel sounds. Rectal examination revealed dark faecal matter on the examining finger. Laboratory tests showed a haemoglobin level of 7.6 g/dL, for which she received one unit of red blood cells, with improvement to 9.1 g/dL, creatinine of 1.1 mg/dL and urea of 116 mg/dL, the latter suggesting a possible upper gastrointestinal source.

While upper GI endoscopy is the first line procedure to detect upper GI bleeding, given the decision to transfuse and absence of fasting, the patient first underwent abdominal and pelvic CT. No changes were observed in the non-contrast phase. However, in the arterial phase, a subtle linear mucosal/submucosal blush of contrast was perceived within the wall of the distal transverse colon, near the splenic flexure, with further enhancement observed in the portal venous phase (Fig. 1), also noted in the sagittal and coronal reconstructions (Fig. 2).

This finding corresponded in location to a DL subsequently found on colonoscopy (Fig. 3). Although the clinical presentation suggested upper GI bleeding, the



**FIGURE 1.** No abnormalities were detected in the non-enhanced phase (A). A subtle linear blush of contrast is visible within the wall of the distal transverse colon in the arterial phase (B), becoming more pronounced in the portal venous phase (C)-consistent with active bleeding.

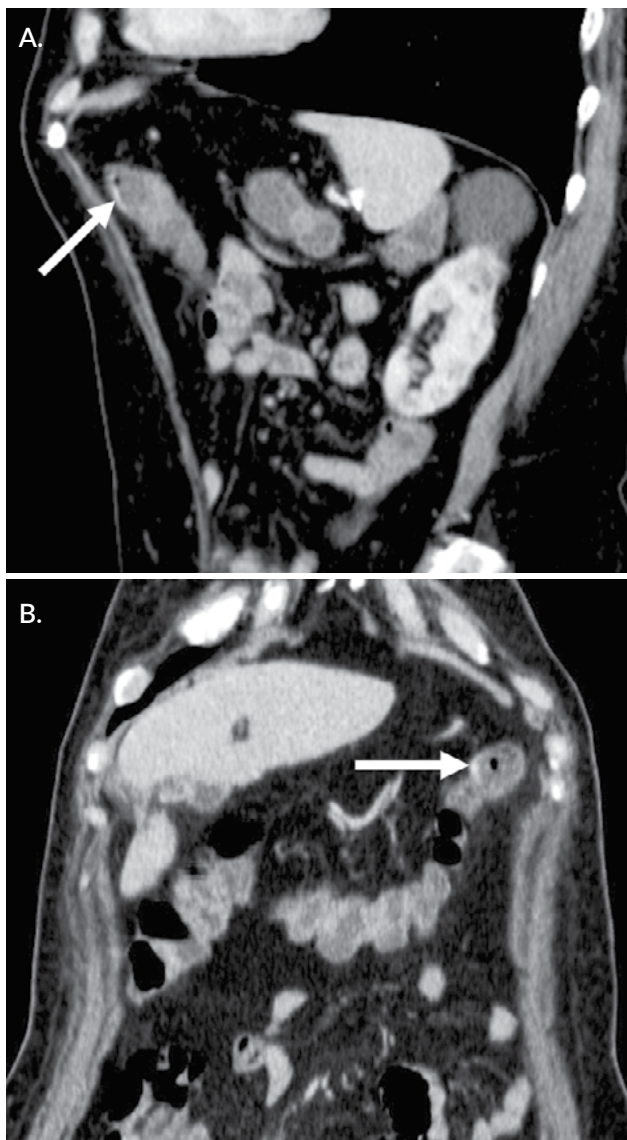
CT pointed to a lower source, leading to the decision to perform a colonoscopy. The patient was treated with epinephrine injection and haemostatic clipping, with successful bleeding control (Fig. 4).

Dabigatran was suspended during hospitalization. At discharge, anticoagulation was not resumed, and the patient was maintained on antiplatelet therapy, considering the bleeding risk.

She maintained regular outpatient follow-up with Internal Medicine, with no recurrence of symptoms after three years.

## DISCUSSION

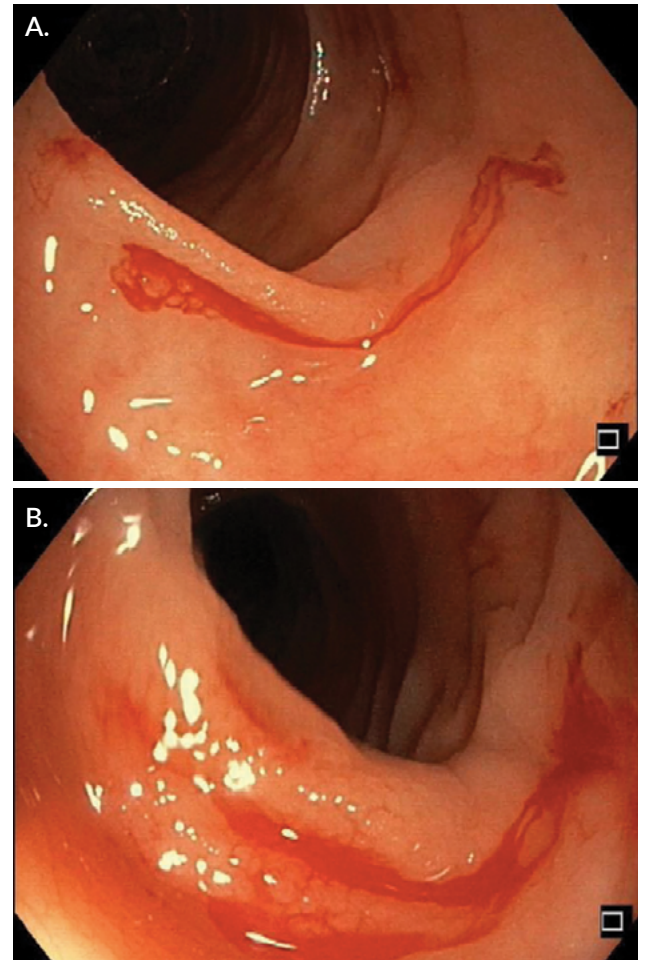
DL is a rare but potentially life-threatening cause of GI bleeding, representing less than 2% of cases.<sup>5</sup> It most commonly occurs in the proximal stomach, along the lesser curvature, with only 5% reported in the colon.<sup>2,3</sup>



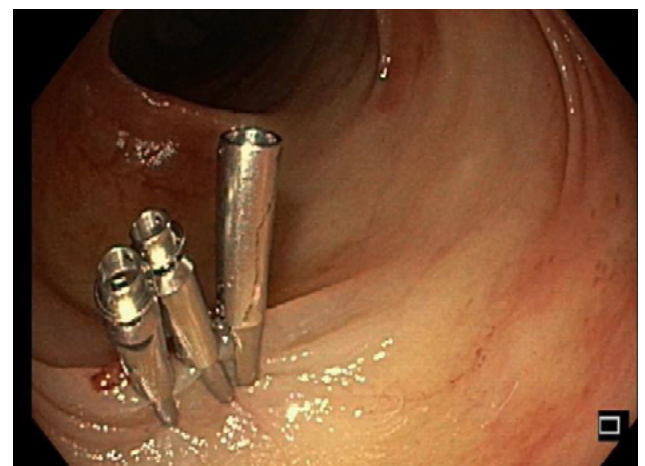
**FIGURE 2.** The enhancement is also evident in the sagittal (A) and coronal (B) venous phase reconstructions- arrow.

Although classified under angiodysplasia, a broader term encompassing a variety of vascular malformations, the exact pathogenesis of DL is unknown.<sup>6</sup> It features an abnormally dilated and tortuous submucosal artery that protrudes through a small mucosal defect, predisposing to rupture.<sup>1</sup>

Unlike typical GI arteries that narrow distally, in DL, the artery fails to taper, leading to pulsatile microtrau-



**FIGURE 3.** Colonoscopy images confirm active bleeding from colonic DL (A,B).



**FIGURE 4.** Bleeding control achieved after epinephrine injection and hemostatic clipping.

ma, ischaemia, ultimately causing mucosal thinning and perforation.<sup>4</sup>

DL is twice as common in men and typically presents after the fifth decade.<sup>7</sup> Patients are generally asymptomatic until acute, painless and significant GI bleeding occurs, manifesting as haematemesis, melena, or haematochezia, depending on the site involved.<sup>8</sup> As with our case, the risk increases in patients with medical comorbidities like hypertension and in those on anti-coagulants.<sup>9</sup>

Endoscopy remains the diagnostic gold standard with criteria including active bleeding from a small mucosal defect (<3 mm) without ulceration, visible vessel protruding from the mucosa, and fresh blood clots attached to the defect.<sup>10</sup> However, diagnosis can be challenging due to the lesion's small size, intermittent bleeding or location inaccessible endoscopically.<sup>3</sup> In such cases, CT can be crucial, revealing the enlarged submucosal vessel, particularly in the arterial phase, often serpentine or linear, or a subtle mucosal/submucosal blush of contrast.<sup>4</sup>

The differential diagnosis includes other causes of lower GI bleeding, as diverticulosis, the most common, typically in the sigmoid and left colon, or arteriovenous malformations. On CT, diverticular bleeding appears as contrast extravasation into a diverticulum during the arterial phase, with enlargement on delayed acquisition. Arteriovenous malformations present as a highly enhancing nidus with an enlarged or early enhancing draining vein.<sup>2</sup>

Endoscopic therapy, often combining clipping and epinephrine injection, is the preferred treatment with success rates of 75%-100%. If endoscopy fails or the lesion is inaccessible, angiographic embolization is a viable alternative, with surgery reserved for cases refractory to both approaches.<sup>11</sup>

Regarding this case, the presence of melena would typically suggest an upper gastrointestinal source, with upper endoscopy as the first-line diagnostic approach, followed by colonoscopy if negative. However, contrast-enhanced CT was performed prior to endoscopy due to clinical constraints, allowing identification and precise location of the bleeding source. This enabled a targeted endoscopic intervention and potentially avoided additional diagnostic steps. CT may therefore be particularly useful in selected situations where endoscopy is not immediately feasible.

The diagnosis of colonic DL remains challenging given its rarity, intermittent bleeding pattern, and often subtle endoscopic findings. A high index of suspicion and

close multidisciplinary collaboration is required for timely diagnosis and effective management.

## CONTRIBUTORSHIP STATEMENT/ DECLARAÇÃO DE CONTRIBUIÇÃO

**ATT** - Responsible for writing the manuscript and collecting the images

**JA** - Performed the abdominal and pelvic CT that led to the diagnosis and reviewed the manuscript

**AC** - Supervision of drafting and revision of the manuscript

All authors approved the final version to be published

**ATT** - Responsável pela redação do manuscrito e coleta de imagens.

**JA** - Realizou a TC abdominal e pélvica que contribuiu para o diagnóstico e revisou o manuscrito.

**AC** - Supervisão da redação e revisão do manuscrito.

Todos os autores aprovaram a versão final a ser publicada

## ETHICAL DISCLOSURES

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**PATIENT CONSENT:** Consent for publication was obtained.

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