

# ISCHEMIC COLITIS SECONDARY TO ARTERIOVENOUS MALFORMATION, A RARE CAUSE OF GASTROINTESTINAL BLEEDING

Sánchez Moreno S, Sánchez García O, Navarro Moreno E, Martínez Amate E

TORRECÁRDENAS UNIVERSITY HOSPITAL. ALMERIA.

## Abstract

We present the case of a 65-year-old patient who presents with rectorrhagia with hemodynamic compromise, caused by ischemic colitis secondary to a vascular malformation at the level of the inferior mesenteric artery.

The presence of arteriovenous malformations in the abdominal territory is rare and it can lead to ischemic colitis as a consequence of the arteriovenous shunt and the decrease in oxygen supply to the surrounding tissue. Since this condition can simulate other more common inflammatory pathologies, it is usually a diagnostic challenge for the clinician and it is necessary to keep it in mind for a correct therapeutic approach.

**Keywords:** ischemic colitis, arteriovenous malformation, hemicolectomy.

## Introduction

Arteriovenous malformations in the abdominal territory can give rise to ischaemic pictures that can simulate other more common inflammatory pathologies, posing a diagnostic challenge for the clinician. Their therapeutic approach is also complex, with intestinal resection of the affected segment and vascular embolisation being necessary in most cases.

## Clinical case

A 65-year-old patient with no past medical history of interest was admitted for two weeks of diarrhoea and rectal bleeding, presenting with a palpable, non-painful mass in the left flank and anaemia in transfusion range.

---

Sara Sánchez Moreno  
Torrecárdenas University Hospital, Almería.  
ssanchezmoreno@outlook.com

Sánchez Moreno S, Sánchez García O, Navarro Moreno E, Martínez Amate E.  
Ischemic colitis secondary to arteriovenous malformation, a rare cause of gastrointestinal bleeding. RAPD 2024;47(6):223-225. DOI: 10.37352/2024476.5

## CLINICAL CASE

A colonoscopy was performed, showing an oedematous appearance of the mucosa with abundant excavated ulcers, suggestive of inflammatory colitis without being able to rule out other causes (Figure 1). The abdominal CT scan showed thickening of the walls of the descending colon, sigma and rectum, with an adjacent image suggestive of an extensive arteriovenous malformation in the territory irrigated by the inferior mesenteric artery (Figure 2), suggesting a probable ischaemic origin of the colitis. The study was completed with an abdominal angiography showing a vascular malformation whose arterial supply was seen at the level of the branches dependent on the sigmoid artery, with respect to the rectal artery, and the compromised branches were embolised with coils (Figure 3). After 48 hours, the patient presented with frank rectal bleeding and haemodynamic instability, so surgery was performed, with left hemicolectomy extended to the upper rectum and resection of the AVM, with a good clinical evolution.

## Discussion

Arteriovenous malformations and fistulas are aberrant vascular connections between arteries and veins, and may be primary or congenital, or secondary to previous surgery or trauma<sup>1</sup>. They can result in a steal phenomenon with disruption of normal blood flow creating a left-to-right shunt leading to a decrease in oxygen supply to the surrounding tissue. When this occurs in the territory supplied by the inferior mesenteric artery, ischaemic colitis may be triggered, but this location is extremely rare<sup>2</sup>.

The associated symptomatology can be varied and non-specific, with clinical manifestations of abdominal pain, intestinal bleeding, ischaemic colitis or the presence of an abdominal mass. Portal hypertension has been described in up to 50% of patients with arteriovenous fistulas of the splanchnic territory<sup>3</sup> and, in the most severe cases, may contribute to the development of heart failure<sup>4</sup>.

The diagnosis of ischaemic colitis secondary to AVM can be complicated in some cases and can be confused with other inflammatory conditions. The therapeutic options available are percutaneous endovascular embolisation, resection of the affected bowel segment (left hemicolectomy in most cases) or a combination of both<sup>5</sup>. Embolisation may be the definitive treatment or a bridge to surgical intervention, however, it may carry a risk of intestinal ischaemia and recurrence of the AVM in some cases<sup>5</sup>.



Figure 1. Endoscopic image with findings of colitis.



Figure 2. Arteriovenous malformation visualised by abdominal CT scan.



Figure 3. Arteriography image showing vascular malformation.

The presence of AVMs in the abdominal territory represents a challenge for the clinician, highlighting the need to reach a diagnosis in order to offer appropriate treatment, as it can be life-threatening.

## Bibliografía

1. Athanasiou A, Michalinos A, Alexandrou A, et al. Inferior mesenteric arteriovenous fistula: case report and world-literature review. *World J Gastroenterol.* 2014; 20:8298–303.
2. Kimura Y, Hara T, Nagao R, et al. Natural history of inferior mesenteric arteriovenous malformation that led to ischemic colitis: A case report. *World J Clin Cases* 2021; 9(2): 396-402.
3. Capron JP, Gineston JL, Remond A, et al. Inferior mesenteric arteriovenous fistula associated with portal hypertension and acute ischemic colitis. Successful occlusion by intraarterial embolization with steel coils. *Gastroenterology* 1984; 86:351-5.
4. Das Gupta J, Rana MA, Delu A, et al. Spontaneous inferior mesenteric arteriovenous fistula as a cause of severe portal hypertension and cardiomyopathy. *J Vasc Surg Cases Innov Tech.* 2019; 5:1.
5. Kim R, Do YS, Park KB. How to treat peripheral arteriovenous malformations. *Korean J Radiol.* 2021; 22:568–76.