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(CASE REPORT)

Mechanical colonic obstruction secondary to a giant aneurysm of the internal iliac artery complicated by a sigmoid volvulus: A case report and review of the literature

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Abstract

Internal iliac artery aneurysms are rare and generally asymptomatic. We report the case of a 90-year-old patient admitted for a low colonic obstruction. Computed tomography revealed a giant 80 mm aneurysm of the internal iliac artery compressing the recto-sigmoid junction, responsible for a mechanical obstruction complicated by a sigmoid volvulus. An emergency colo-exsufflation was performed followed by embolization. The outcome was favorable. This case illustrates the rarity of this presentation and highlights the importance of a multidisciplinary approach integrating the gastroenterologist in the management.

Keywords: Internal Iliac Aneurysm; Colonic Obstruction; Sigmoid Volvulus; Colo-Exsufflation; Embolization

1. Introduction

Internal iliac artery aneurysms are rare, representing less than 0.4% of all arterial aneurysms. Most often asymptomatic, they are discovered incidentally during imaging examinations. However, when they become symptomatic, it is generally due to their rupture or a mass effect on adjacent pelvic structures. Among the compressive complications, lower digestive obstruction is exceptional and rarely described in the literature. We report here a unique case of mechanical colonic obstruction secondary to a partially thrombosed aneurysm, having caused a sigmoid volvulus, initially treated by endoscopic colo-exsufflation.

2. Observation

A 90-year-old patient, followed for deep venous thrombosis of the right lower limb under curative anticoagulation, was admitted to the emergency department for a low obstruction evolving for four days. On clinical examination, the patient was conscious, hemodynamically stable and slightly dyspneic. The abdomen was distended and tympanic, with an empty rectal ampulla on digital rectal examination. The biological work-up showed an inflammatory syndrome with hyperleukocytosis.

Abdomino-pelvic computed tomography revealed a fusiform aneurysm of the left common iliac artery partially thrombosed and a sacciform aneurysm of the right common iliac artery partially thrombosed with signs of fissuration. This aneurysm displaced the bladder and compressed the recto-sigmoid junction, responsible for a mechanical obstruction without signs of digestive suffering. A deep venous thrombosis of the right common femoral vein extending to the homolateral common iliac vein was also demonstrated.

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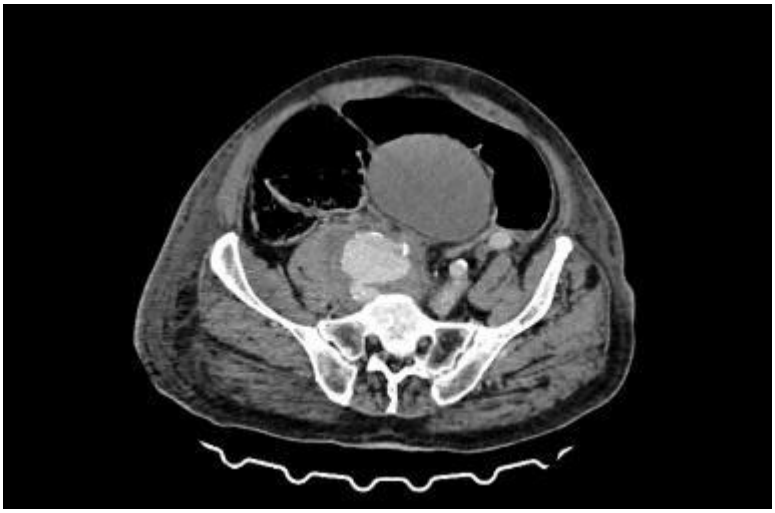

Figure 1 Axial section showing the giant aneurysm of the internal iliac artery compressing the recto-sigmoid

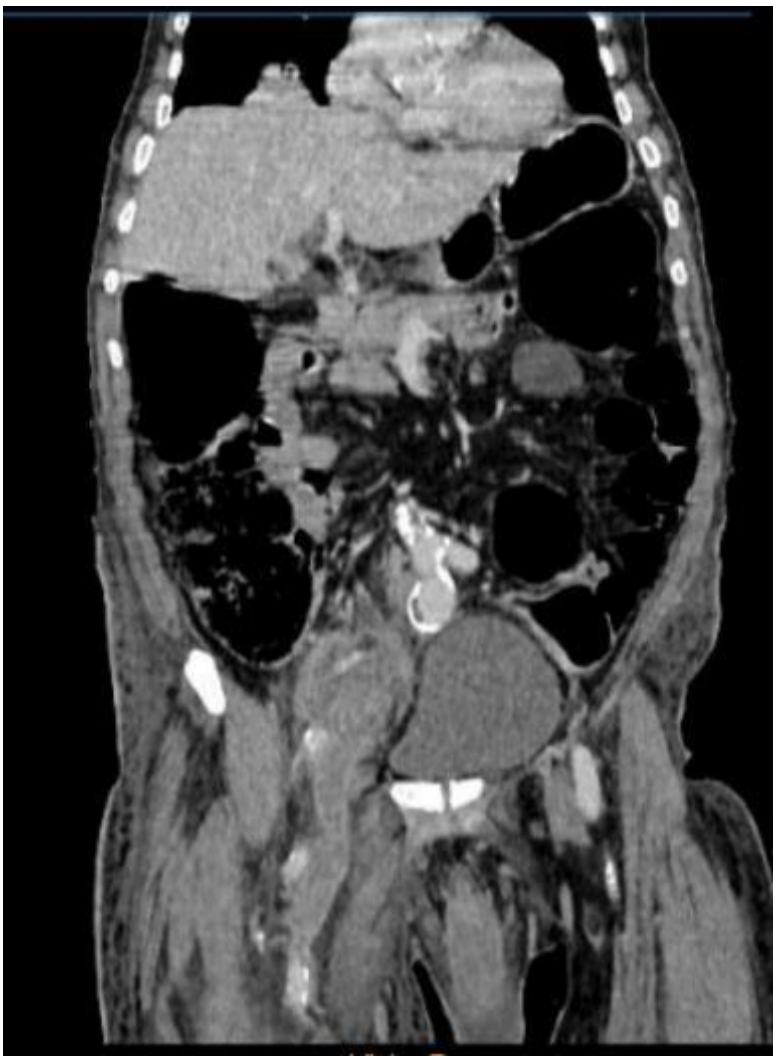

Figure 2 Coronal section illustrating colonic dilation upstream of the obstruction

Initial management consisted of an emergency colo-exsufflation. The colonoscope was advanced under minimal insufflation up to the left colic angle. At 35 cm from the anal margin, the mucosa appeared macroscopically normal. Between 35 and 40 cm, an extrinsic compression was visualized, responsible for a large dilated cavity downstream,

confirming the mechanical origin of the obstruction. Exsufflation allowed colonic decompression with placement of a rectal tube. Exploration beyond 50 cm was limited by the presence of hard stools. Post-procedure evolution was marked by abdominal decompression and clinical improvement. The patient subsequently benefited from a sandwich embolization of a pseudo-aneurysm of the right hypogastric artery by coiling and biological glue.

3. Discussion

Internal iliac artery aneurysms are rare, with an estimated prevalence between 0.03 and 0.4%. They become symptomatic when their diameter exceeds 30 to 40 mm, which increases the risk of compression or rupture. Compressive manifestations vary depending on the structures involved: urinary signs are the most frequent, followed by neurological signs such as sciatica. Digestive compression is exceptional and manifests as constipation or an obstructive syndrome related to direct compression of the rectum or sigmoid. The association with a sigmoid volvulus had not been reported previously. This phenomenon can be explained by chronic compression creating a fixed point at the level of the sigmoid, an upstream hypermobility favored by colonic distension, and a secondary torsion related to the progressive mass effect.

Computed tomography is the reference examination for diagnosis and therapeutic planning. In our case, it allowed visualization of the direct compressive effect on the recto-sigmoid junction and the upstream colonic dilation. Management must be multidisciplinary. Colo-exsufflation was decisive, allowing rapid relief of the occlusive emergency and reducing the risk of perforation. It also allowed preparation of the patient for definitive embolization, illustrating the strategic role of the gastroenterologist in the initial management

Table 1 Similar cases reported in the literature

Author, year	Age (years)	Clinical presentation	Size (cm)	Treatment
Çolak et al., 2001	80	Recto-sigmoid obstruction + perforation	5.5	Open surgery
Massara et al., 2008	74	Low obstruction + rupture	6	Open surgery
Tsuji et al., 2011	73	Chronic constipation + obstruction	7	Open surgery
Yoshida et al., 2019	76	Rectal obstruction + hydronephrosis	8.5	Endovascular repair
Our case, 2024	90	Obstruction + sigmoid volvulus	8.0	Colo-exsufflation + Embolization

4. Conclusion

Colonic obstruction secondary to a giant internal iliac artery aneurysm is an exceptional complication, especially when it is complicated by a sigmoid volvulus. Colo-exsufflation plays an essential role in rapidly relieving the obstruction and stabilizing the patient before definitive treatment by embolization.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study."

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