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Case study

Constipation following bilateral internal iliac artery aneurysms

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ABSTRACT

A 72-year-old man presented with constipation. He was hypertensive and suffered from chronic constipation. On arrival, the patient was fully conscious, and his vital signs were stable. He requested an enema because this treatment had proved effective in the past. On physical examination, a hard palpable mass was detected in the lower abdomen. Computed tomography was performed with contrast media. It revealed an abdominal aortic aneurysm (AAA) and bilateral internal iliac artery aneurysms (IIAAs); the latter obstructing the sigmoid colon. We believe that this obstruction was the cause of constipation. The patient underwent Y-graft replacement for the treatment of the AAA and bilateral IIAAs. The surgery was successful, and constipation has not recurred since. As constipation is the most common digestive disorder in the general population, all physicians should be aware that chronic constipation can be caused by bilateral IIAAs.

Keywords: Constipation, aneurysm, internal iliac artery, elderly

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BACKGROUND

Rupture of internal iliac artery aneurysms (IIAAs) can be lethal, with mortality rates of 50–100%.^{1–3} Furthermore, the majority of patients with IIAAs are asymptomatic until aneurysmal rupture occurs. We present a case of a 72-year-old man with chronic constipation due to obstruction of the sigmoid colon by unruptured bilateral IIAAs. We report this case to illustrate that bilateral IIAAs can cause chronic constipation.

CASE PRESENTATION

A 72-year-old man, who was brought to the emergency department of Odawara Municipal Hospital (Kanagawa, Japan) by ambulance, complained of chronic constipation and lower abdominal pain. On arrival, he was fully conscious and alert; his vital signs were as follows: systolic blood pressure, 148 mmHg; respiratory rate, 16 breaths/min; heart rate, 88 beats/min; and SpO₂, 100% while breathing room air. He had a history of hypertension and chronic constipation. The results of blood examinations were almost within the normal range. The patient requested an enema because this treatment had proved effective in the past. The findings of rectal examination were normal. However, a hard palpable mass in the lower abdomen was detected on physical examination. Echography revealed dilation of the abdominal aorta; therefore, computed tomography (CT) with contrast enhancement was performed. It revealed an abdominal aortic aneurysm (AAA) (47.5 mm) and unruptured bilateral IIAAs (right, 47 mm; left, 45 mm); the IIAAs obstructed the sigmoid colon (Figures 1a, b). We believe that this obstruction was the cause of constipation in the patient.

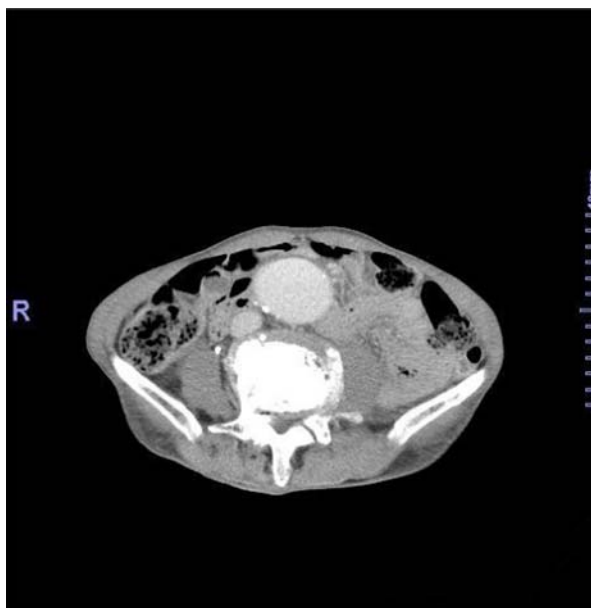


Figure 1a. CT scan of abdominal aortic aneurysm (47.5 mm).

The patient underwent Y-graft replacement for the treatment of the AAA and bilateral IIAAs in Tokai University School of Medicine (Kanagawa, Japan). The surgery was successful, and constipation has not recurred since.

DISCUSSION AND CONCLUSION

Constipation is the most common digestive disorder in the general population. The prevalence of chronic constipation increases with age, and this increase is dramatic in patients aged > 65 years.⁴ The etiology of chronic constipation is varied and includes metabolic diseases, neurological disorders, and obstructive intestinal disease. Furthermore, chronic constipation very often occurs as a side effect of commonly used drugs.

In contrast, IIAA is a lethal condition of which all physicians ought to be aware. Rupture of IIAAs has a mortality rate of 50–100%.^{1–3} Most patients with IIAAs are elderly men aged > 65 years. IIAA is caused



Figure 1b. Pelvic CT scan revealing the bilateral internal iliac artery aneurysms (right, 47 mm; left, 45 mm).

by atherosclerosis, infection, trauma, and arteritis.⁵ Since the internal iliac artery (IIA) is situated deep in the pelvis, its aneurysmal dilation may remain asymptomatic and undetected until aneurysmal rupture occurs. Therefore, early diagnosis is unusual unless the condition is incidentally detected on radiological imaging for other reasons.⁵ However, some patients with unruptured IIAAs present with urological, neurological, gastrointestinal, and other symptoms.⁵ This is because the ureter is situated anterior to the IIA, the internal iliac vein and lumbosacral trunk are present posteriorly, and the obturator nerve and sigmoid colon are located laterally.

Urological symptoms are the most common (54% cases),⁶ followed by neurological symptoms (10–15% cases).^{7–9} Gastrointestinal symptoms are comparatively rare because only large bilateral IIAAs result in colonic obstruction. Thus, chronic constipation due to bilateral IIAAs is rare and difficult to diagnose. Further, isolated IIAAs are rare and occur in only 2% of cases.⁵ Most IIAAs occur concomitantly with AAAs.⁵ For this reason, if the physical examination of an elderly patient complaining of chronic constipation reveals the presence of a hard palpable mass in the lower abdomen, physicians should be aware of the possibility of bilateral IIAAs.

Recent advances in radiology have enabled the successful treatment of IIAAs by using endovascular repair.¹⁰ However, patients with IIAAs who present with compression symptoms are not eligible for endovascular repair, and therefore surgeons should opt for the classic surgery for IIAAs in such patients.

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