Case study

Constipation following bilateral internal iliac artery aneurysms

S Morita*, M Yamaguchi, T Yamagiwa, S Inokuchi

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 (IIAs); 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 IIAs. 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 IIAs.

Keywords: Constipation, aneurysm, internal iliac artery, elderly

Cite this article as: Morita S, Yamaguchi M, Yamagiwa T, Inokuchi S. Constipation following bilateral internal iliac artery aneurysms, Journal of Emergency Medicine, Trauma & Acute Care 2012:25 http://dx.doi.org/10.5339/jemtac.2012.25
BACKGROUND
Rupture of internal iliac artery aneurysms (IIAAs) can be lethal, with mortality rates of 50–100%.\textsuperscript{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 SpO\textsubscript{2}, 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.

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.\textsuperscript{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\%.\textsuperscript{1–3} Most patients with IIAAs are elderly men aged > 65 years. IIAA is caused
by atherosclerosis, infection, trauma, and arteritis. 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. However, some patients with unruptured IIAs present with urological, neurological, gastrointestinal, and other symptoms. 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), followed by neurological symptoms (10–15% cases). Gastrointestinal symptoms are comparatively rare because only large bilateral IIAs result in colonic obstruction. Thus, chronic constipation due to bilateral IIAs is rare and difficult to diagnose. Further, isolated IIAs are rare and occur in only 2% of cases. Most IIAs occur concomitantly with AAAs. 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 IIAs.

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

REFERENCES
[1] Kasulke RJ, Clifford A, Nichols WK, Silver D. Isolated atherosclerotic aneurysms of the internal iliac arteries: report of two cases and review of the literature. Arch Surg. 1982;117(1):73–77.
[2] Verta MJ, Janevicius RV. Isolated hypogastric artery aneurysms. J Cardiovasc Surg. 1982;23(5):432–434.
[3] Boyarsky AH, Burks WP, Davidson TJ, Chandler JL. Ruptured aneurysm of the internal iliac artery. South Med J. 1985;78(1):1356–1357.
[4] Higgins PD, Johnson JF. Epidemiology of constipation in North America: a systematic review. Am J Gastroenterol. 2006;99(4):750–759.
[5] Dix FP, Titi M, Al-Khaffaf H. The isolated internal iliac artery aneurysm—a review. Eur J Vasc Endovasc Surg. 2005;30(2):119–129.
[6] Culp O, Bernatz PE. Urologic aspects of lesions in the abdominal aorta. Int J Urol. 1961;86:189–195.
[7] Chapman EM, Shaw RS, Kubik CS. Sciatic pain from arteriosclerotic aneurysm of the pelvic arteries. N Engl J Med. 1964;271:1410–1411.
[8] Waldman I, Braun A. Femoral neuropathy secondary to iliac artery aneurysms. South Med J. 1977;70(10):1243–1244.
[9] Gilillain I, Fell G, King B, French J. Unusual isolated iliac artery aneurysm. Br J Surg. 1986;73(5):375–376.
[10] Patel NV, Long GW, Cheema ZF, Rimar K, Brown DW, Stanley CJ. Open vs. endovascular repair of isolated iliac artery aneurysms: a twelve-year experience. J Vasc Surg. 2009;21. [Epub ahead of print].