CASE REPORT

A rare cause of epigastric pain in a middle-aged man

Rannie Nahas, Thomas Pain, Peter Goulden

Department of Diabetes and Endocrinology, Maidstone Hospital, Maidstone and Tunbridge Wells NHS Trust, Kent, UK

Correspondence to

Rannie Nahas, Postgraduate Centre, Maidstone Hospital, Hermitage Lane, Maidstone, Kent ME16 9QQ, UK; rannienahas@doctors.org.uk

SUMMARY

A 50-year-old man presents to the emergency department with epigastric pain and is found to have severe hypertension on clinical examination. After admission to hospital, further investigation with CT imaging reveals the patient has an uncomplicated splenic artery dissection. Conservative management is chosen as advised by a vascular surgery team and the patient was subsequently discharged from hospital with warfarin anticoagulation and antihypertensive medicines. This case report aims to build a profile of a patient who may present with splenic artery dissection and details our recommended management plan.

BACKGROUND

Splenic artery dissection is an extremely rare disease with only 13 previously reported cases in the literature. However, we believe this is the first reported case of an uncomplicated spontaneous splenic artery dissection diagnosed in vivo.

CASE PRESENTATION

A 50-year-old man presented to the emergency department with a sudden onset of severe epigastric pain. The pain was sharp, 7 of 10 in severity and radiated to the left hypochondrium and the back. He had noticed a recent increased frequency of headaches. His social history included a managerial occupation, being a current smoker of 20 pack years and consuming 20 units of alcohol per week. He had no significant medical history and did not take any regular medication.

On examination he had central obesity but appeared well. Admission blood pressure was 259/138 mm Hg with a heart rate of 70 bpm, respiratory rate of 15 breaths/min, oxygen saturation of 98% on air and temperature of 35.6°C. Repeat blood pressure measurement in the left and right arms was 225/131 and 232/120 mm Hg, respectively. He had mild epigastric tenderness, but no palpable masses and normal bowel sounds. Digital rectal examination was normal. The remainder of the clinical examination was normal.

ECG demonstrated sinus rhythm with left axis deviation. Urine dipstick showed no abnormalities. Chest and abdominal radiographs were normal. Full blood count, renal function, amylase and troponin T levels were within normal limits.

Initial management included treatment with oral amlodipine, oral doxazosin, oral labetalol for hypertension and intravenous omeprazole for suspected peptic ulcer disease. He was transferred to a cardiac ward and monitored with cardiac telemetry. His abdominal pain settled the day after presentation.

INVESTIGATIONS

After a period of observation, in light of the history and examination findings it was felt that investigation with a CT aortogram was necessary to exclude aortic dissection. This revealed normal precontrast and postcontrast images of the thoracic and abdominal aorta. However, the scan showed soft tissue stranding surrounding the region of the pancreas and coeliac axis. There was an intimal flap apparent within the coeliac axis, at the origin of the splenic artery. The splenic artery had an abnormal appearance along its length consistent with dissection of the vessel to the level of the splenic hilum (figure 1). The hepatic artery and left gastric arteries enhanced normally. The spleen enhanced normally and showed no evidence of infarction.

TREATMENT

There is little published literature on spontaneous splenic artery dissection.^{1–3} However, based on the evidence base available on treatment of other similar types of dissection, the vascular surgeons recommended anticoagulation for a minimum of 3 months with Warfarin. Other management included blood-pressure-lowering agents. He was given lifestyle and smoking cessation advice.

OUTCOME AND FOLLOW-UP

The patient was discharged with endocrinology and vascular surgery outpatient follow-up. Further investigations carried out excluded secondary causes of hypertension.

DISCUSSION

Isolated splenic artery dissection is extremely rare and is usually reported as a postmortem finding. Indeed on review of current literature, we found only 13 reported cases of splenic artery dissection,

Figure 1 CT abdomen demonstrating splenic artery dissection with a non-enhancing false lumen.

To cite: Nahas R, Pain T, Goulden P. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009605

12 of which were discovered on postmortem.^{1 2} The incidence is believed to be 0.007% according to a large autopsy series that found two splenic artery dissections in 28 512 postmortem examinations over a 47-year period.⁴

Risk factors for visceral artery dissection include atherosclerosis, trauma, arterial catheterisation, pregnancy, connective tissue diseases such as Marfan and Ehlers-Danlos syndromes and large vessel vasculitis.³ Most cases of splenic artery dissection have been found in middle-aged men with a history of hypertension.^{1 2}

Our patient was a middle-aged male with severe hypertension and multiple risk factors for atherosclerotic cardiovascular disease, which would increase his risk of visceral artery dissection.

Enhanced CT arteriography is the gold standard investigation to diagnose splenic artery dissection; however, given its rarity, this diagnosis is unlikely to be considered in patients with a similar presentation.⁴ It is believed that visceral artery dissection (which includes splenic artery dissection) is significantly under diagnosed and is thought to be asymptomatic in half of cases. Abdominal pain seems to be the main symptom described.³

In uncomplicated visceral arterial dissections, treatment aims are pharmacological control of blood pressure to reduce propagation of the dissection and anticoagulation or antiplatelet therapy to prevent thrombotic occlusion of the affected artery. Although there are no trials on which to base this recommendation, it is reasonable to extrapolate clinical data from similar sized arterial dissection, for example, those that cause acute stroke.⁵

Endovascular and surgical intervention should be considered only in complicated cases where there is aneurysm, rupture or end organ ischaemia.³ Splenic artery rupture was seen in 9 of the 13 cases previously reported in the literature.^{1 2}

To our knowledge this is the first report of a case of uncomplicated spontaneous splenic artery dissection diagnosed in vivo. In line with published literature, the diagnosis should be considered in a middle-aged hypertensive male with acute abdominal

pain. Diagnosis is with enhanced CT arteriography and treatment is medical unless complications develop in which case surgical/endovascular intervention is recommended.

Learning points

- Splenic artery dissection is extremely rare.
- Consider the diagnosis in a middle-aged hypertensive male with acute abdominal pain.
- Diagnosis is made with enhanced CT arteriography.
- Despite a lack of evidence on treatment, medical management as with other similar sized arterial dissections can be used, that is, anticoagulation and antihypertensive medicines.
- Complications of splenic artery dissection requires surgical or endovascular intervention.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Merrell SW, Gloviczki P. Splenic artery dissection: a case report and review of the literature. *J Vasc Surg* 1991;15:221–5.
- 2 Desinan L, Scott CA, Piai I, *et al*. Sudden death due to spontaneous rupture in splenic artery atypical dissection with features of vasculitis: case report and review of the literature. *Forensic Sci Int* 2010;200:1–3.
- 3 Nordanstig J, Gerdes H, Kocys E. Spontaneous isolated dissection of the celiac trunk with rupture of the proximal splenic artery: a case report. *Euro J Vasc Endovasc Surg* 2009;37:194–7.
- 4 Sheps SG, Spittel JA, Fairbairn JF II, *et al*. Aneurysms of the splenic artery with special reference to bland aneurysms. *Proc Mayo Clin* 1958;33:381–90.
- 5 National Institute for Health and Clinical Excellence. *Stroke (CG68): diagnosis and initial management of acute stroke and transient ischaemic attack (TIA)*. London: National Institute for Health and Care Excellence. July 2008.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow