CASE REPORT

Ruptured left gastroepiploic artery aneurysm – a diagnostic dilemma

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Abstract

We report a case of a 63-year-old man who presented to Accident and Emergency department (A&E) with dizzy spells and falls of sudden onset, without any obvious cardiac or vestibular abnormality. He had significant co-morbidity and rupture of the left gastroepiploic artery aneurysm. The atypical presentation and rarity of the case posed a diagnostic dilemma. Once the diagnosis was established by computerised tomography (CT), treatment was uncomplicated with good recovery.

Keywords Visceral artery aneurysm · Gastroepiploic artery · Ruptured aneurysm · Emergency admission with shock · Diagnostic dilemma · Selective angiogram

Introduction

Aneurysm of the gastroepiploic artery (GEA) is extremely rare [1]. Ruptured visceral artery aneurysms can mimic many clinical conditions [2]. Most cases of ruptured GEA aneurysms present with shock and haemoperitoneum. Where time permits, imaging with CT or angiography are the investigations of choice [2, 3]. Often the diagnosis is only made at exploratory laparotomy.

Case History

A 63-year-old man presented to the A&E department with sudden onset of dizzy spells and falls. He also complained of upper abdominal pain and nausea. There was no history of chest pain, loss of consciousness or breathlessness. He was obese (body mass index 46) and had obstructive sleep apnoea, non insulin dependent diabetes mellitus and previous deep vein thrombosis (DVT). He had tachycardia (pulse rate of 100/min), but was haemodynamically stable (supine blood pressure 161/98mm of Hg). There was epigastric tenderness with a soft abdomen. No mass or organ was palpable. His haemoglobin (Hb) on admission was 12.9g/dl, and white cell count was 14.1/dl. All other investigations including ECG, abdominal and chest X-rays and biochemistry were within normal limits.

He was admitted for observation, and was prescribed low molecular weight heparin in view of his obesity and previous DVT. Repeat Hb two days later showed a drop to 8.7g/dl. An urgent CT scan failed to demonstrate any cause or source of bleeding, and did not show free fluid in the peritoneal cavity. He was given blood transfusions. All investigations were again repeated; a ventilation/perfusion scan was also done and was normal. The diagnosis remained elusive.

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Fig. 1 CT scan with intravenous contrast demonstrating aneurysm

Fig. 2 Laparotomy showing aneurysm wrapped in omentum

His abdominal pain persisted, and a repeat CT scan on the seventeenth day showed a localised collection adjacent to the greater curve of the stomach antero-laterally and in the left subphrenic space. A small sealed gastric perforation was suggested as the cause however gastroscopy and colonoscopy failed to confirm any perforated viscus. The patient remained stable and his haemoglobin improved.

A repeat CT scan with intravenous contrast four months later demonstrated a 2.5cm left GEA aneurysm (Fig. 1). The patient underwent elective operation. At laparotomy, the aneurysm was easily identified, though was wrapped in omentum (Fig. 2). The artery was ligated on either side of the aneurysm and it was excised. He had an uneventful postoperative recovery and was discharged home on the eight day.

Discussion

Aneurysms of the visceral arteries can result in significant morbidity and mortality when they rupture. Over 3000 cases have been reported in the literature [4, 5]. Splenic artery aneurysms form the bulk, make up 60 percent of the total

incidence [4, 5]. Aetiological factors include local inflammation, such as pancreatitis or anastomotic leakage, atherosclerotic degeneration, medial dysplasia or agenesis, and mycotic embolism. An increased incidence has been reported in patients with dominant polycystic kidney disease [6].

GEA aneurysms form approximately 0.2% to 0.4% of all visceral artery aneurysms [1, 2]. Fifteen cases have been reported in the English literature.

Rokke et al. [2] have reported an increase in the number of cases of visceral artery aneurysm and have attributed this to a high level of clinical suspicion coupled with a more liberal use of arteriography in the diagnosis of haemoperitoneum.

Management depends on the location of the aneurysm and the health of the patient [1]. Selective arterial angiography with embolisation is possible in some cases [2, 5], though surgical intervention remains the usual management. The advantage of laparotomy is the ability to reconstruct or insert a graft where the collateral circulation is poor or non existent [3, 5].

Uchikoshi et al. [7] and Yamabuki et al. [8] have reported successful laparoscopic resection of right GEAs.

Often patients have more than one visceral artery aneurysm, and a full vascular assessment in these cases is recommended. Since most visceral aneurysms rupture, elective resection is advocated.

Conclusion

This rare case had a common presentation in A&E. Comorbid conditions and a stable haemodynamic status of the patient stopped us from performing a diagnostic laparotomy on admission. When the first CT scan was revisited after diagnosis was established, the leaking aneurysm was quite apparent. Diagnosis eluded us initially due to the rarity of this condition and lack of clinical suspicion. The old adage 'What the mind does not know the eyes cannot see' held true.

References

1. Funahashi S, Yukizana T, Yano K, Yamaga H, Muto Y, Ikeda T, Sugimachi K (1997) An aneurysm of the right gastroepiploic artery. *J Cardiovasc Surg* 38:385–388
2. Rokke O, Sondenna K, Amundsen SR, Larssen TB, Jensen D (1997) Successful management of Eleven Splanchnic Artery Aneurysms. *Eur J Surg* 163:411–417
3. Montisci R, Cuccu G, Serra F, Lantini V, Cocco G, Brotzu G (1992) Spontaneous Rupture of an Aneurysm of the Left Gastroepiploic Artery. *Eur J Vasc Surg* 6:95–97
4. Borini R, Garofalo M, Innocenti P, Fittipaldi D, Tempesta P, Colagrande L, Seddio F, Pace A (1999) Haemoperitoneum due to spontaneous rupture of an aneurysm of the left gastroepiploic artery. *J Cardiovasc Surg* 40:63–64

5. Rohtagi A, Cherian T (2002) Spontaneous rupture of a left gastroepiploic artery aneurysm. *J Postgrad Med* 48:288–289
6. Nagaba Y, Nishimaki H, Ichinoe M, Okuwaki Y, Hamura M, Makino T, Sano T, Higashihara M, Kamata K, Soma K (2005) Spontaneous rupture of a left gastroepiploic artery aneurysm in a patient with autosomal dominant polycystic kidney disease. *Cin Nephrol* 83(2):163–166
7. Uchikoshi F, Sakamoto T, Imabunn S, Lee S, Taniguchi E, Kai Y, et al: (1993) Aneurysm of the right gastroepiploic artery, a case report of laparoscopic resection. *Cardiovasc Surg* 1: 550–551
8. Yamabuki T, Kojima T, Shimizu T, Kitashiro S, Kanishi K, Katoh T, Katoh H (2003) Successful laparoscopic right gastroepiploic artery aneurysmectomy. *Surg Today* 33(12):932–936