Laparoscopic resection of splenic artery aneurysm with preservation of splenic function

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ABSTRACT
We report a 59-year-old woman who had a successful laparoscopic resection of a splenic artery aneurysm. The common treatment for this condition is radiological embolisation or splenectomy. Laparoscopic resection of the splenic artery aneurysm with preservation of good splenic function over the long-term is presented.

Keywords: laparoscopic resection, splenic artery aneurysm, splenic function preservation

INTRODUCTION
Splenic artery aneurysm has an incidence in the general population in an autopsy series of between 0.1% and 10.0%, and is the most common of visceral aneurysms. The risk factors associated with splenic artery aneurysm includes portal hypertension, vasculitis, arteriosclerosis, arterial fibrodysplasia, and female gender. The importance of treating splenic artery aneurysm lies in the fact that when the transverse diameter of the aneurysm reaches 1.5–2 cm or more, the reported incidence of rupture ranges from 3.0% to 9.6%.

CASE REPORT
We report a 59-year-old woman with a past history of strangulated bowel in her childhood requiring a bowel resection. Her postoperative recovery was complicated by peritonitis and abdominal wall dehiscence. The other relevant medical history include an uncomplicated laparoscopic cholecystectomy for cholelithiasis, and a laparoscopic Nissen fundoplication for ulcerative reflux oesophagitis and hiatus hernia in 2004. Her symptoms of reflux resolved with the fundoplication. Later in 2004, she presented with stabbing pain in her left upper quadrant and shortness of breath. After excluding other lesions, a diagnosis of symptomatic splenic artery aneurysm was made, based on the clinical and radiological findings. Abdominal radiograph showed a 1.4-cm calcified ring shadow in the left upper quadrant. A follow-up spiral computed tomography demonstrated a rounded calcific density with central contrast enhancement correlating with a splenic artery aneurysm in the splenic hilum.

The patient was positioned supine with slight left-sided elevation. Four ports were inserted in the left upper quadrant, one 12-mm for the laparoscopic camera, one 5-mm and 12-mm each for operative manoeuvre and one 5-mm for retraction. The patient had multiple small bowel and omental adhesions from the previous abdominal surgery. After excluding other lesions, a diagnosis of symptomatic splenic artery aneurysm was made, based on the clinical and radiological findings. Abdominal radiograph showed a 1.4-cm calcified ring shadow in the left upper quadrant. A follow-up spiral computed tomography demonstrated a rounded calcific density with central contrast enhancement correlating with a splenic artery aneurysm in the splenic hilum.

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DISCUSSION

Our literature search showed that this is the first described case of laparoscopic resection of a splenic artery aneurysm with long-term preservation of the splenic function. The laparoscopic technique offers all the advantages of minimally invasive surgery and the preservation of the spleen based on alternative blood supply prevents future complications associated with splenectomy. The management of splenic artery aneurysm remains controversial. Saltzberg et al (2005) reported their series of patients with visceral artery aneurysms from 1990 to 2003, of which 36.4% (four of 11 patients with splenic artery aneurysm) patients with distal splenic artery aneurysms treated with endovascular embolisation developed major complications. Based on their experience, they recommended traditional surgical treatment of splenic artery aneurysm with repair or ligation and concomitant splenectomy. Melissano and Chiesa reported two cases of open surgery after failure of percutaneous embolisation treatment.

On our patient, laparoscopic resection of the splenic artery aneurysm via the anterior approach allows for preservation of the splenic function as the short gastric artery was intact. In conclusion, the management of splenic artery aneurysm continue to be controversial. We presented a feasible option of a successful laparoscopic resection of splenic artery aneurysm via the anterior transabdominal approach. The technique offers excellent intraoperative exposure, good postoperative recovery, and the good long-term outcome associated with preservation of splenic function.

REFERENCES