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 division of adhesions, the greater omentum and splenic flexure of the colon were mobilised, the splenic artery was exposed at the tail of the pancreas, and its branches were dissected and isolated with Silastic loops. The aneurysm was identified and dissected off at the trifurcation of the splenic artery (Figs. 1–4). A vascular stapler was used proximal and distal to the aneurysmal part. The lower half of the spleen became dusky after resection. However, the upper half remained well perfused due to intact short gastric artery (Fig. 5). The abdominal cavity was irrigated with normal saline and a Jackson-Pratt drain was placed in the hilum of the spleen. There was no intraoperative or postoperative complication. She recovered well and was discharged the next day from the hospital. The patient remained well on follow-up. Her splenic function was maintained as there was sufficient viable splenic tissue to sustain normal functions and based on routine blood test and abdominal imaging over a two-year period.
suggested laparoscopic exclusion followed transplantation treated with percutaneous embolisation, success of Chiesa reported or surgical on embolisation developed aneurysms reported their series of patients with visceral artery aneurysm remains controversial. Saltzberg with splenectomy. The blood supply all the artery described our literature search showed branches isolated 11

Fig. 3 Operative photograph shows the main arterial trunk and branches isolated by vesiloops.

Fig. 4 Operative photograph shows further isolation of the splenic arterial trunk.

Fig. 5 Operative photograph shows the spleen after resection of the aneurysm.

aneurysm using a lateral approach in order to allow for preservation of splenic function.\(^{[10]}\) In 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