

# Brief Communication

## Communication abrégée

### VISCERAL ARTERY ANEURYSM

Rhonda M. Janzen, MD; William T. Simpson, MB ChB†

Visceral artery aneurysms are rarely encountered by general surgeons. The commonest intra-abdominal emergency is a rupturing abdominal aortic aneurysm. Most visceral artery aneurysms are asymptomatic and are discovered incidentally. In isolated regions, the general surgeon must deal with emergency vascular problems as described here.

#### CASE REPORT

A 61-year-old man presented to a small district hospital complaining of the sudden onset of diffuse abdominal pain,

which had started while he was eating and driving his car. His recent health had been good. His medical history included a single episode of pancreatitis and surgery (probably vagotomy and pyloroplasty) for a gastric ulcer 25 years previously.

On examination a pulsatile mass was noted in the abdomen. He was transferred to a regional hospital. On admission his vital signs were stable and his hemoglobin level was 120 g/L. Computed tomography without contrast revealed a leaking splenic artery aneurysm, 20 cm in dimension (Fig. 1).

At laparotomy through a midline inci-

sion, multiple adhesions were noted. There were blood clots in the pelvis. An aneurysm, 25 cm in dimension was found eroding into the root of the mesocolon and small-bowel mesentery. The duodenum was kocherized and the porta hepatis dissected. A splenectomy was done. The greater curve of the stomach was mobilized. The proximal aorta was dissected free and taped for proximal control, as was the infrarenal aorta. What was thought to be the right hepatic artery was identified and traced back to the celiac artery, where it was discovered that the celiac artery was involved in the origin of the aneurysm.

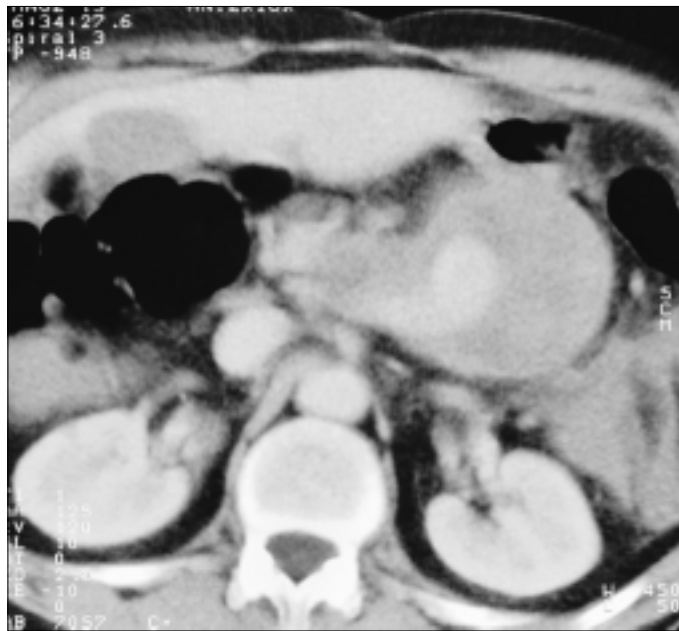


FIG. 1. Computed tomography scan showing the splenic artery aneurysm.

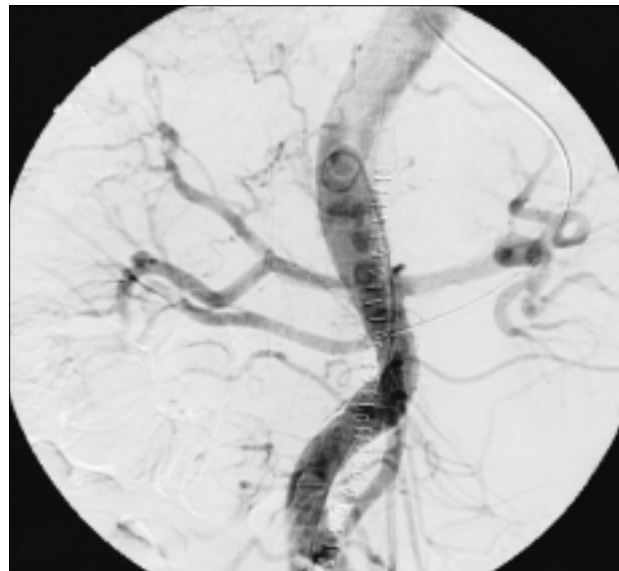


FIG. 2. Postoperative angiogram shows no flow through the celiac artery and a replaced right hepatic artery coming off the superior mesenteric artery.

*From the Department of Surgery, Prince George Regional Hospital, Prince George, BC*

*\*Resident IV, University of British Columbia, Vancouver, BC*

*†Clinical Assistant Professor, University of British Columbia*

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**Correspondence to:** Dr. William T. Simpson, Department of Surgery, Prince George Regional Hospital, 1569 6th Ave., Prince George BC V2L 3N4

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The celiac artery was approximately 5 cm in diameter. On further dissection, an aberrant right hepatic artery was found coming off the superior mesenteric artery. The neck of the aneurysm at the level of the celiac artery was ligated with Prolene suture. Pulsation ceased in the aneurysm. An aneurysmectomy was not done. Intraoperatively the patient was given 4 units of packed red blood cells and 2.5 L of crystalloid solution. By postoperative day 2 his hemoglobin level was 97 g/L, the international normalized ratio was 1.3 and the aspartate aminotransferase (AST) level was 1803 U/L. On postoperative day 4 the AST level had decreased to 532 U/L. Angiography showed no flow through the celiac artery and a replaced right hepatic artery coming off the superior mesenteric artery (Fig. 2).

The patient was released from hospital 6 days postoperatively, tolerating a full diet and with an AST level of 202 U/L.

**DISCUSSION**

Splenic artery aneurysm is the most common visceral artery aneurysm (60%), followed by hepatic (20%), superior mesenteric (5.5%), celiac (4%), gastric and gastroepiploic (4%), jejunal-ileal-colonic (3%), pancreatic and pancreaticoduodenal (2%) and internal mammary artery (less than 1%).<sup>1</sup> Hepatic artery aneurysms in the last 10 years have become the most frequently reported in the literature — likely they are iatrogenic from the increasing number of percutaneous procedures. The natural progression of visceral artery aneurysms is thought to be one of growth, with an increased likelihood of rupture. This is especially true for nonsplenic visceral artery aneurysms. In fact, 22% of such aneurysms present with rupture and the death rate is 8.5%.<sup>1</sup> Splenic artery aneurysms are more susceptible to rupture in women in the third trimester of preg-

nancy, and in such cases are associated with a high fetal and maternal mortality.

Intraoperative consideration was given to the consequence of tying off the celiac artery, with resultant compromised blood supply to the liver. In this case, the replaced right hepatic artery was available, leaving only the left hepatic artery sacrificed. For common hepatic artery aneurysms proximal to the gastroduodenal artery, ligation without reconstruction is usually successful due to collateral flow through the gastroduodenal artery, inferior pancreaticoduodenal artery and right gastric artery. Aneurysms of the hepatic artery itself or its branches require reconstruction.

**Reference**

1. Messina R7M, Shankley CJ. Visceral artery aneurysms. *Surg Clin North Am* 1997;77: 425-42.

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