

## Photoclinic



**Figure 1.** Abdominal computerized tomography (with contrast).

A 54-year-old man was referred to our hospital because of severe excruciating acute colicky central abdominal pain. The pain was associated with nausea, postprandial vomiting, and constipation. He had history of 15 kg weight loss during the last two months. He was opium addict, and cigarettes smoker (20 packs-year) with a negative history of diabetes mellitus and hypertension. He underwent a surgical operation two months before, when he had a similar attack of abdominal pain. The surgery was

then revealed small bowel necrosis for which resection of 30 cm of small bowel was performed. General physical examination was unremarkable. There was mild tenderness in deep palpation of periumbilical area. Laboratory data including serum amylase were reported to be normal.

The initial abdominal ultrasonography was normal. Upper gastrointestinal endoscopy and colonoscopy were also normal. On account of his severe abdominal pain, a multislice helical abdominal computerized tomography with contrast was requested (Figure1).

**Vahid Hosseini MD\***, **Shahin Merat MD\***, **Javad Mikaeli MD\***

**Authors' affiliation:** \*Digestive Disease Research Center, Tehran University of Medical Sciences, Shariati Hospital, Tehran, Iran

**Corresponding author and reprints:** Vahid Hosseini MD, Digestive Disease Research Center, Tehran University of Medical Sciences, Tehran, Iran.

Fax: +98-21-880-26481

Accepted for publication: 12 August 2006

What is Your Diagnosis?  
See the next page for the diagnosis

Visceral artery aneurysms are found in only 0.2% of the general population. Among these, aneurysms of the superior mesenteric artery (SMA) are very unusual and account for only 5.5 – 8%.<sup>1-4</sup> Most visceral artery aneurysms are located in either the splenic or hepatic arteries. SMA involvement is the third most common type of reported splanchnic artery aneurysm.<sup>1-4</sup> SMA aneurysms, though uncommon, are lethal and must be treated expeditiously to avoid mortality and high incidence of ischemic small bowel complications. Risk of rupture or embolization is the impetus for their definitive treatment.<sup>1-4</sup> Prompt diagnosis and treatment is essential to decrease the mortality and minimize the prevalence of intestinal infarction.<sup>8</sup> These aneurysms are typically located distal to the origin of the SMA. This situation lends itself to interposition grafting as a means of both aneurysm repair and reestablishment of prograde SMA blood flow.<sup>1-4</sup> Previous reports indicate that most SMA aneurysms were the result of bacterial seeding from endocarditis or septicemia.<sup>1-6</sup> However, recent reports demonstrate atherosclerosis as the leading cause of this particular arterial dilatation.<sup>3</sup> The SMA aneurysm in our patient appeared to be atherosclerotic in origin. Nonatherosclerotic visceral artery aneurysms are often multiple and their etiologies include arterial dissection, polyarthritis nodosa, posttraumatic, inflammation from pancreatitis, Marfan's syndrome, Ehlers-



**Figure 2.** Abdominal CT angiography: the 3-D reconstruction of the patient's abdominal CT angiography showing the typical finding of superior mesenteric artery aneurysm.

Danlos syndrome, Takayasu's arteritis,  $\alpha_1$ -anti-trypsin deficiency, and fibromuscular dysplasia.<sup>5-7</sup> Symptoms of an SMA aneurysm are often subtle, and patients may present with chronic nonspecific or postprandial abdominal pain.<sup>1-4</sup> Some patients present with acute complications of rupture or dissection.<sup>1-4, 8</sup> A pulsatile abdominal mass or bruit may be present in up to 50% of patients.<sup>2</sup> The rate of diagnosis of asymptomatic aneurysms has been increased for use of CT and arteriography that aid in the diagnosis of vague abdominal complaints (Figure 2).<sup>1-4</sup> The appropriate operative repair technique is based on anatomic features of the aneurysm, patency of the SMA, competency of visceral collateral circulation, and blood supply to the small intestine.

Most SMA aneurysms are not at the origin and can be surgically repaired by ligation/exclusion, resection with or without graft reconstruction, or endo-aneurysmorrhaphy. Revascularization is mandatory if bowel ischemia is present or a possibility. Otherwise, exclusion by simple ligation or by endovascular means may be an adequate treatment for the usual distal-based SMA aneurysm that is accompanied by a well-developed collateral circulation.<sup>1-4</sup> In our patient, the SMA aneurysm was detected on CT scan and CT angiography. Abdominal pain in our patient became very severe after meal with a history of 15 kg weight loss during two months. During surgery, a thrombosed superior mesenteric aneurysm and stenosis of jejunal branches was detected. Thromboendarterectomy and patch graft of anterior wall of aneurysm with fugarty of jejunal branches were done. Postoperatively, abdominal pain subsided and the patient could tolerate food. He gained 7 kg during five months of follow-up.

## References

- 1 Stanley JC, Zelenock GB. Splanchnic artery aneurysms. In: Rutherford RB, ed. *Vascular Surgery*. 5th ed. Philadelphia: WB Saunders; 2000: 1369 – 1382.
- 2 Messina LM, Stanley CJ. Mesenteric ischemia: visceral artery aneurysms. *Surg Clin North Am*. 1997; **77**: 425 – 440.
- 3 Stone WM, Abbas M, Cherry KJ, Fowl RJ, Gloviczki P. Superior mesenteric artery aneurysms: is presence an indicator for intervention? *J Vasc Surg*. 2002; **36**: 234 – 237.
- 4 Komori K, Mori E, Yamaoka T, Ohta S, Takeuchi K,

- Matsumoto T, et al. Successful resection of superior mesenteric artery aneurysm. A case report and review of literature. *J Cardiovasc Surg (Torino)*. 2000; **41**: 475 – 478.
- 5 Kojima A, Shindo S, Kubota K, Iyori K, Ishimoto T, Kobayashi M, et al. Successful surgical treatment of a patient with multiple visceral artery aneurysms due to fibromuscular dysplasia. *Cardiovasc Surg*. 2002; **10**: 157 – 160.
- 6 Ohmi M, Kikuchi Y, Ito A, Ouchi M. Superior mesenteric artery aneurysm secondary to infectious endocarditis. *J Cardiovasc Surg*. 1990; **30**: 115 – 117.
- 7 Mitchell MB, McAnena OJ, Rutherford RB. Ruptured mesenteric artery aneurysm in a patient with alpha-antitrypsin deficiency: etiologic complications. *J Vasc Surg*. 1993; **17**: 420 – 442.
- 8 Ishida M, Kato N, Hirano T, Suzuki T, Shomura Y, Yada I, Takeda K. Dissecting aneurysm of the superior mesenteric artery successfully treated by endovascular stent-graft placement. *Cardiovasc Intervent Radiol*. 2003; **26**: 403 – 406.

Archive of SID