

Case Report

Ruptured Ileocolic Artery Aneurysm: An Unusual Cause of Hemoperitoneum

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ABSTRACT

Ruptured aneurysm of a branch of ileocolic artery is a rare finding and is an unusual cause of haemoperitoneum. Rapid diagnosis, and surgical or endovascular intervention are necessary to avoid devastating consequences and high mortality rates following an emergency operation after rupture. Resection is a good choice for surgical intervention for some aneurysms that are not suitable for endovascular repair. This report describes the case of a middle-aged man with a ruptured superior mesenteric artery branch aneurysm and his subsequent surgical management.

Key Words: Haemoperitoneum, ileocolic artery, aneurysm, superior mesenteric artery

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An aneurysm of the abdominal splanchnic artery is a relatively rare vascular disorder.^[1] Since it is characterized by nonspecific clinical manifestations, aneurysm in this uncommon location is usually diagnosed following complications, including rupture, some of which result in death. This report describes the case of a middle aged man with a ruptured superior mesenteric artery (SMA) branch aneurysm.

CASE REPORT

A 50-year-old male referred to our hospital with complaint of colicky central abdominal pain for 3 days associated with vomiting but no fever or altered bowel habit. He is a known case of diabetes mellitus, hypertension and left-sided cerebral stroke 3 years back. He was under treatment for the same problem in some private hospital for 3 days with the provisional diagnosis of acute pancreatitis, and being managed conservatively. On examination, his vital signs were stable. Abdomen was showing mild to moderate tenderness in the central abdomen with no

guarding or rebound tenderness. Chest and cardiovascular examination were normal while neurological examination revealed right hemiparesis and bilateral hemianopia. Laboratory investigations showed Hb. 11.0 gm/dl, WBCs were 14,000/uL, creatinine was 117gm/dl and coagulation profile within normal limits. Computed tomography (CT) scan of the abdominal and pelvis showed small aneurysmal dilatation of a segmental superior mesenteric artery branch measuring 1.0 × 0.8 cm with adjacent focal well-defined area of mesenteric fat enhancement at right lower abdomen measuring 5 × 3 cm [Figure 1].

He was admitted and planned for surgery. On 2nd day of admission the pain became severe and the patient became hemodynamically unstable. Hemoglobin dropped from 10 gm/dl to 8 gm/dl initially and then 5.5 gm/dl. He was resuscitated and immediately underwent exploratory laparotomy which revealed hemoperitoneum with a huge hematoma in the mesentery of the small bowel and behind the cecum and ascending colon. The leaking aneurysm was difficult to recognize because of extensive hemorrhage. Ligation of ileocolic branch of the superior mesenteric artery was done and limited right hemicolectomy was performed as the terminal ileum looked unhealthy and ischemic after vessel ligation. He received 5 units of packed red blood cells and 10 units of fresh frozen plasma during the procedure. Post operatively he was shifted to the intensive care unit for early postoperative treatment. On 3rd post-operative day, he was shifted to the ward and then discharged in good clinical condition on 6th post-operative day [Figure 2].

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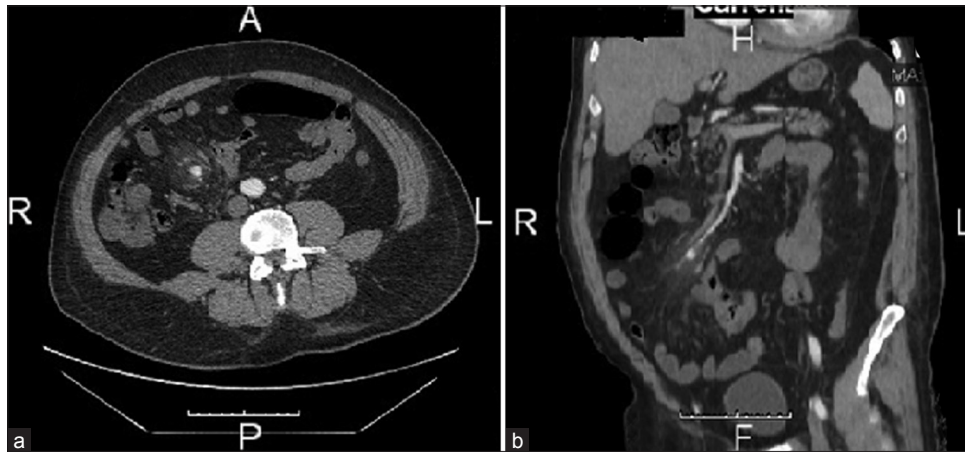


Figure 1: CT Scan abdomen and pelvis showing aneurysm in ileocolic artery of superior mesenteric artery (a) transverse (b) coronal



Figure 2: CT scan abdomen and pelvis showing resected aneurysm and limited right hemicolectomy

Histopathology report revealed focal serosal inflammation with serosal haemorrhage in the resected specimen with acute inflammation in the mesentery and omentum, suggestive of ischemic change. Follow up CT scan of brain as well as abdomen and pelvis was done [Figure 2] and did not show any other associated aneurysm. No significant complications were noted during four months of follow up visits in the clinic.

DISCUSSION

Visceral artery aneurysms are relatively rare clinical entities, although their detection is rising due to an increased use of cross-sectional imaging.^[2] The incidence of an aneurysm in a branch of the SMA is 3% of all visceral arteries. The most common site of SMA branch aneurysm is jejunal artery followed by middle colic and ileal arteries.^[3,4] The most common causes of aneurysm are atherosclerosis, angiodysplasias, arteritis and infection.^[3,5] However, in our case, arteritis seems to be

responsible because of raised leukocytes and C-reactive protein as well as mesenteric enhancement on the CT scan. These aneurysms are usually asymptomatic but rupture, thrombosis and distal embolization have been reported frequently.^[3-5] These complications can be life threatening; as the incidence of spontaneous rupture reaches up to 50%.^[6] Due to the presence of good collateral circulation these aneurysms are often amenable to ligation. Endovascular management is particularly useful in the treatment of pseudoaneurysms where comorbidities and previous surgery make open surgical repair less desirable.

Because of high risk of rupture and ligation, they can interrupt the circulation to the target organs and therefore surgery is indicated even in the absence of complications.^[6]

Aneurysmorrhaphy and simple ligation, being first done by Cooley and Debakey^[7] in 1953, is still the mainstay for the treatment, particularly in the patients who present with shock due to ruptured aneurysm, as it can cause unnecessary delay in the definitive treatment resulting in higher morbidity and mortality.^[1,4,8]

Endovascular treatment can also be done in these cases as it is associated with lower morbidity and mortality, however, these days many aneurysm are not suitable for this type of treatment since it is technically demanding and requires trained staff. Although it can be used in case of ruptured aneurysm,^[8] it is primarily used for small asymptomatic aneurysms. Treatment choices include embolization of the aneurysm^[9] or stent grafting,^[10] although in a case of mycotic etiology it is used with caution due to a high risk of infection in graft material.^[10]

CONCLUSION

Isolated aneurysms of the SMA branches are rare. Most cases are diagnosed after the occurrence of complications. Early diagnosis would be useful, since the natural course can be disastrous and life threatening without timely treatment. In this report, we presented a case of ruptured aneurysm of ileocolic branch of superior mesenteric artery, managed by simple ligation of the aneurysm and resection of the bowel.

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