

Case Report

Middle Colic Artery Pseudoaneurysms in Acute Necrotising Pancreatitis

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Acute pancreatitis is notorious for causing pseudo-aneurysms of the surrounding vessels, which though rare are associated with a high mortality if they rupture. Such pseudo-aneurysms commonly most commonly involve the splenic artery which lies just behind the pancreas. A high index of suspicion for such lesions and a timely intervention helps decrease the mortality associated with these lesions. We report a very rare case of multiple pseudo-aneurysms in the middle colic artery, following acute necrotising pancreatitis managed conservatively with endovascular coiling.

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Key words : Acute pancreatitis, Pseudo-aneurysms.

Pancreatitis is an acute inflammation of the pancreas, which is situated retroperitoneal in location and is surrounded by many major vessels of the abdomen. These vessels may be involved in the inflammatory process of the pancreas and lead to either pseudo-aneurysm or a thrombosis.

Pancreatitis leads to pseudo aneurysm in 2-5% of cases, mostly involving the splenic (50-60%) and gastroduodenal (15-20%), pancreaticoduodenal (5-10%) arteries¹. We report a case of multiple Middle colic artery pseudo-aneurysm in a patient due to acute necrotising pancreatitis successfully managed by coiling of the pseudo-aneurysm.

CASE REPORT

A 34 year gentleman presented with acute epigastric pain with radiation to the back. He had history of binge alcohol which he was having for past 8-10 years with daily.

On examination patient had tachycardia of 140 with a blood pressure of 140/90 mm Hg. Abdominal examination revealed tenderness in the epigastric region with no evidence of mass or abdominal distention. Lab investigations revealed Haemoglobin of 10.4mg%, White blood cell count - 13000/mm³, platelets - 2.6 lakh/mm³. Liver enzymes not elevated. Serum lipase was 1000U/L.

Ultrasonography of abdomen showed mild hepatosplenomegaly with gallbladder sludge, pancreas was obscured. Contrast enhanced computerised tomography (CECT) scan showed a well defined iso to hyper dense

Editor's Comment :

- Pseudo-aneurysms adjacent to pseudocyst or pancreatic necrosis form due to enzymatic breakdown of small arterial wall from contact with pancreatic secretions.
- Pseudo aneurysm of middle colic artery is a very rare entity. Almost all are symptomatic and display greater risk of rupturing than true aneurysms. Angiographic Coil embolisation being the preferred technique of treatment for Middle Colic artery Pseudo-aneurysm with a success rate of almost 90 %.

lesion with surrounding peripheral hypodensity of 4.6* 4.1cm in the body of pancreas showing progressive enhancement with a suspicious foci of arterial hyper enhancement seen in inferior wall of the lesion with no demonstrable arterial feeder. The lesion was enhancing in venous phase and was suspected to be a venous varix. This lesion was displacing the pancreas anteriorly. There were also bilateral large sub diaphragmatic collections communicating with collection in the body of pancreas.

Angiography was done with a 5Fr 8cm trans-femoral catheter which revealed multiple aneurysms along a left branch of middle colic artery largest being 4cm in proximal region with other 3-4 small aneurysms distally. The aneurysm had a narrow neck delaying its filling in arterial phase and filling up in venous phase, which was seen well as enhancement in venous phase of the CECT. No active extravasation of the contrast was seen. Using a 2.7Fr Progreat micro-catheter selective cannulation of middle colic artery performed and 200 polyvinyl alcohol (PVA) particles installed to embolise the distal aneurysm. Various coils were deployed to occlude the aneurysm by distal to proximal technique. Check angiogram revealed no flow into aneurysm. Patient was started on nasojejunal enteral feeds and discharged. Patient was totally asymptomatic at 6 weeks followup (Figs 1&2).

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DISCUSSION

Very few cases of middle colic artery pseudo-aneurysms have been documented.

Arteries have 3 layers namely endothelium, muscularis and adventitia and a true aneurysm has all these three layers. Visceral artery aneurysms are extremely rare, and most of them have been reported after spontaneous haemorrhage. Only 3% of all reported splanchnic artery aneurysms have been located in the jejunal, ileal, or colic arteries¹. The aetiology of these aneurysms is poorly known: most appear to be due to congenital or acquired medial defects - atherosclerosis, connective tissue disorders, vasculitis, rarely post traumatic.

False aneurysms or pseudo-aneurysms are defined as missing complete arterial walls lined by adventitia or perivascular tissue and arises from the weakening of the arterial wall caused by trauma, including surgical trauma. Pseudo-aneurysms adjacent to pseudocyst or pancreatic necrosis form due to enzymatic breakdown of small arterial wall from contact with pancreatic secretions. Depending on the extent of spread of pancreatic inflammation, such pseudo aneurysms form in any vessel surrounding the pancreas and have been documented in splenic artery, gastroduodenal and pancreaticoduodenal arteries. The middle colic vessel arises from the superior mesenteric artery just below the pancreas and passes between the two layers of transverse mesocolon and rare to get isolated involved due to pancreatic necrosis.

Extensive literature search documented only 5 cases of single pseudo aneurysm of middle colic artery, however, our patient had multiple such pseudo-aneurysms in only middle colic artery which is not found in literature²⁻⁴.

Almost all cases of pseudo-aneurysms hence are symptomatic and display greater risk of rupturing than true aneurysms. These generally present with abdominal pain in 62% patients, however, they have a tendency to bleed into pancreatic pseudocyst or the gastrointestinal tract in approximately 30% of patients and present with hypovolemic shock, fall in haemoglobin, melena. Though

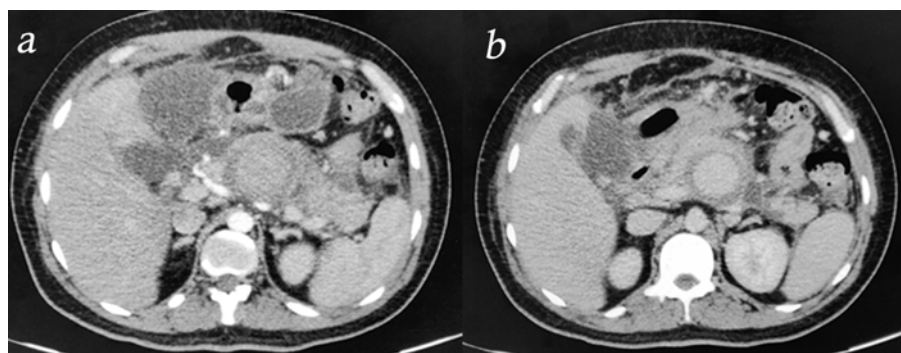


Fig 1 — Body of Pancreas (a) Arterial phase CT with a well defined lesion just behind pancreas (b) Venous phase CT of the same lesion with enhancement

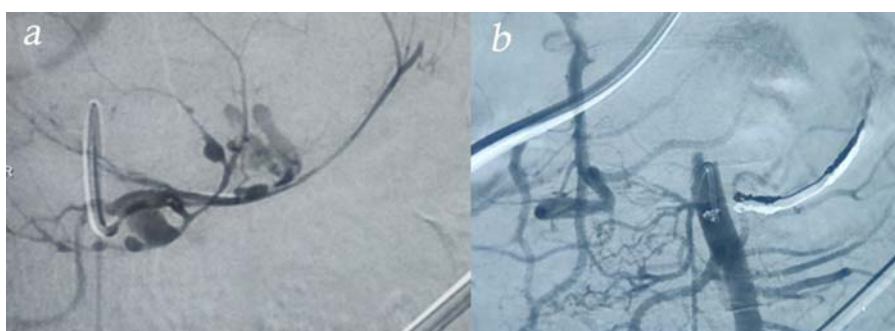


Fig 2 — Totally asymptomatic at 6 weeks followup (a) Angiography showing aneurysms along the branches of middle colic artery (b) Post coiling angiography

a CECT can clinch the diagnosis, however angiographic Coil embolisation being the preferred technique with a success rate of almost 90 % in higher centres⁵.

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