

Traumatic Superior Mesenteric Artery Pseudoaneurysm: A Rare and Potentially Lethal Complication of Blunt Abdominal Trauma

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ABSTRACT

Pseudoaneurysm arising from the Superior mesenteric artery is very rarely seen as a complication of trauma to abdomen. It has a very low incidence and because of this reason it is less likely to be suspected in patients with traumatic injury to abdomen. If a pseudoaneurysm is ruptured, it can be a life threatening condition and this is the reason, it should always be in mind during management of patients with abdominal trauma. We have reported a case of a young female who was brought in emergency department after blunt traumatic injury to abdomen. She was having the complaints of enlarging lump in epigastric region and pain. She underwent ultrasound followed by CT angiogram and was found to have a pseudoaneurysm arising from superior mesenteric artery.

Key words: Superior Mesenteric Artery; Pseudoaneurysm; Abdominal trauma.

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INTRODUCTION

Pseudoaneurysm of superior mesenteric artery is a rare but known vascular complication in patients with abdominal trauma. Pseudoaneurysms carry a high risk of rupture which can be fatal. Because of this reason early diagnosis is important.¹ Pseudoaneurysm is also called as false aneurysm because it is confined between the two outer layers of artery. It is usually caused by trauma to abdomen. Other possible causes could be pancreatitis and iatrogenic injury during surgical procedures; however, it can also occur spontaneously.²⁻⁴

CASE

A 27 years old female was brought in emergency department with complaint of epigastric pain and enlarging lump in epigastric region after blunt traumatic injury to abdomen. At the time of examination, her blood pressure was 110/70 mm

Hg and pulse was 80 beats/min. Her labs showed Hb of 11 mg/dl, normal TLC and raised ESR. She underwent ultrasound FAST which was negative for free fluid but it revealed a large cystic mass in upper abdomen. On Color Doppler imaging swirling flow was noted in it. Subsequent CT angiogram of abdomen was performed and it showed a filling of contrast within the cystic mass on arterial phase located in mesentery on left side originating from left lateral border of Superior mesenteric artery (SMA), Fig (1).

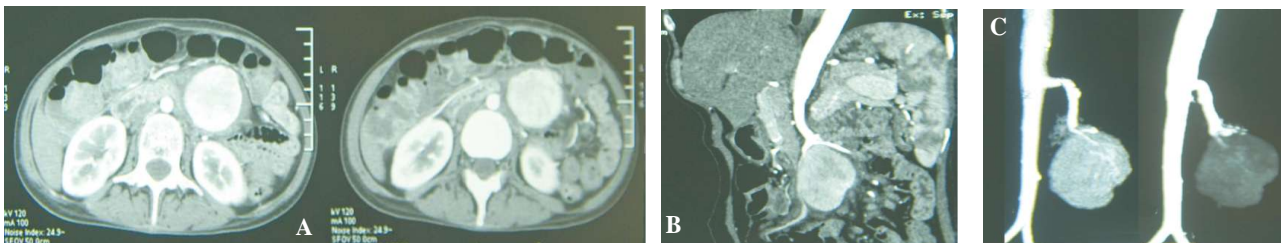
Mild displacement of main artery is noted on right side due to the mass effect. No calcification was noted within the mass or along the wall. No intraluminal thrombus was seen. There was no associated injury to solid viscera. On the basis of imaging findings SMA pseudoaneurysm was diagnosed. Successful endovascular stenting was performed and patient was stable afterward on follow up.

Figure 1 (A to C): Axial contrast CT arterial phase shows contrast filled dilated vascular structure (**pseudoaneurysm**) arising from distal aspect of SMA on left side, which is better demonstrated in 3D reconstructed and MIP images.

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DISCUSSION

The most common presentation of patients with SMA pseudoaneurysm is pain and enlarging lump in epigastrium after abdominal trauma. Patients can present with the symptoms of SMA syndrome, in which there is duodenal obstruction due to narrow angle between SMA and aorta.⁵

Patients may present with symptoms of bowel obstruction due to compression effects of pseudoaneurysm on the fourth part of duodenum. Diagnosis on ultrasound can sometimes be missed in acute setting of trauma because of emergency focused ultrasound. CT angiogram is the excellent non-invasive imaging modality for the diagnosis of pseudoaneurysm. DSA remains the gold standard modality.²⁻⁴

On ultrasound it usually shows a cystic anechoic mass with thin wall and communication with superior mesenteric artery. On Color Doppler imaging swirling flows seen.

CT angiogram is the non-invasive imaging modality of choice for the detection of pseudoaneurysm and its relationship to the SMA.

CT shows low attenuation cystic mass with avid arterial enhancement with similar attenuation of adjacent artery and it persists on venous phase.⁶ Though it is a rare condition but still several reports have described successful endovascular stenting of pseudoaneurysm. Open surgery is sometimes difficult in conditions like pseudoaneurysm due to pancreatitis or in case of adhesions, in which there is increase risk of failure of open vascular reconstruction and complications related to anesthesia especially in the unstable patients. Other treatment options for this condition are coil placement, thrombin injection or N-butyl-2-cyanoacrylate (glue).

CONCLUSION

Vascular injuries such as SMA pseudoaneurysm should always be considered in the setting of acute trauma, though it is rare but it can lead to potentially lethal complications as rupture which carries a significantly high mortality rate. Early diagnosis and prompt treatment can save the life of a patient.

REFERENCES

1. Tulsyan N, Kashyap VS, Greenberg RK. The endovascular management of visceral artery aneurysms and pseudoaneurysms. *J Vasc Surg* 2007; 45:276–83.
2. Kutlu R, Ara C, Sarac K Bare stent implantation in iatrogenic dissecting pseudoaneurysm of the superior mesenteric artery. *Cardiovasc Intervent Radiol.* 2007; 30:121-3.
3. Ray B, Kuhan G, Johnson B, Nicholson AA, tles DF: Superior mesenteric artery pseudoaneurysm associated with celiac axis occlusion treated using endovascular techniques. *Cardiovasc Intervent Radiol* 2006; 29:886-9.
4. Wallace MJ, Choi E, McRae S, Madoff DC, Ahrar K, Pisters P: Superior mesenteric artery pseudoaneurysm following pancreaticoduodenectomy: management by endovascular stentgraft placement and transluminal thrombin injection. *Cardiovasc Intervent Radiol* 2007; 30:518-22.
5. Lippl F, Hannig C, Weiss W, Allescher HD, Classen M, Kurjak M Superior mesenteric artery syndrome: diagnosis and treatment from the gastroenterologist's view. *J Gastroenterol* 2002; 37:640-3.
6. Kuppusamy S, Krishnamachari S, Satheesh S, Nelamangala Ramakrishnaiah VP Visceral artery pseudoaneurysm: A report of three cases. *Int J Adv Med Health Res* 2015; 2:126-30.

