



# ORIGINAL RESEARCH PAPER

# Surgery

## SMA ANEURYSM – A CASE REPORT

**KEY WORDS:** Aneurysm, Superior mesenteric artery.

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**ABSTRACT** A 55 year old male presented with c/o pain abdomen for 10 days. Physical examination revealed a tender pulsatile mass of size 8x6cm in the epigastric region. Peripheral pulses were normal. CECT abdomen showed a 5.7 x 3.2 x 4.9cm fusiform aneurysm of SMA, 2cm from its origin from aorta with central contrast pooling and eccentric thrombus with wall calcification. Partial excision of the sac and interposition bypass with reversed saphenous vein was performed. No complications were observed post operatively.

## INTRODUCTION

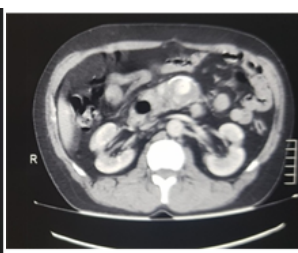
Superior mesenteric artery (SMA) aneurysms are uncommon and account for 5.5% of all visceral artery aneurysm<sup>(1,2)</sup>. They are difficult to detect until complications occur. With increased use of CT, more SMA aneurysms tend to be diagnosed incidentally. 50-60% of SMA aneurysm are of mycotic origin<sup>(4,5)</sup>, with a rupture rate of 38%<sup>(2)</sup> and mortality rate of 40-60%<sup>(3)</sup>. As soon as an SMA aneurysm is identified by imaging, intervention is recommended<sup>(6)</sup>. We present a case of large SMA aneurysm with impending rupture.

## CASE

A 55 year old male presented with c/o pain abdomen for 10 days. He had no concurrent medical problems. Physical examination revealed a tender pulsatile mass of size 8x6cm in the epigastric region. Peripheral pulses were normal. Blood investigations were normal. Ultrasound examination of abdomen revealed a 4.3x3.1cm lesion noted anterior to abdominal aorta at the level of pancreas with internal echos eccentrically, suspicious of SMA aneurysm with thrombus. CECT abdomen showed a 5.7 x 3.2 x 4.9cm fusiform aneurysm of SMA, 2cm from its origin from aorta with central contrast pooling and eccentric thrombus with wall calcification.

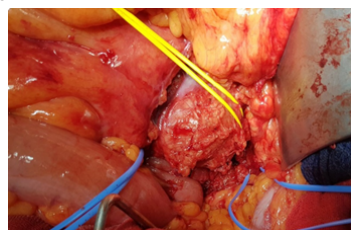


**Fig 1a. CECT Abdomen showing proximal SMA**

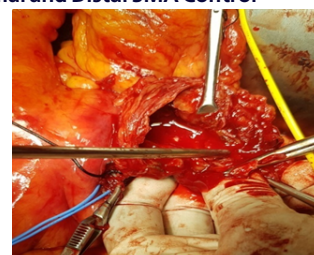


**Fig1b. CECT Abdomen showing SMA aneurysm with central contrast pooling and eccentric thrombus with wall calcification**

Since patient was in severe pain, in view of impending rupture, we proceeded with emergency surgery. Intra operatively there was a 6x5cm fusiform SMA aneurysm 2cm from the origin with thick calcified wall adherent to SMV. With proximal aortic control, proximal and distal SMA control, sac opened, thrombus evacuated and back bleeding controlled. Sac excised partially (since part of the sac was adherent to SMV) and interposition bypass with reversed saphenous vein was performed. Distal flow was reestablished.



**Fig.2 – Proximal and Distal SMA Control**



**Fig.3 - Opening the sac and controlling back bleed**



**Fig.4- Interposition bypass with reversed saphenous vein**

**No complications were observed post operatively.**

**HPE Report:** Fibrofatty tissue with portion of vessel wall with hyalinization, focal intimal thickening, medial degeneration and inflammatory cell infiltrate, s/o vessel wall with atherosclerotic changes.

Patency was confirmed by CT angiogram.



**Fig.5 – Post OP CT angiogram showing patent graft and retained sac wall adherent to SMA**

## DISCUSSION

Visceral artery aneurysms are uncommon. Most of the cases are symptomatic. Approximately 48% of the patients were asymptomatic. Presence of a visceral artery aneurysm should be suspected in any patient with abdominal pain. In our case, SMA aneurysm was incidentally found in a patient suspected of having an abdominal aortic aneurysm.

With increased modern imaging techniques, most cases were diagnosed as incidental finding<sup>(7,8)</sup>. SMA aneurysm is the third most common splanchnic aneurysm next to splenic and hepatic artery aneurysm<sup>(5)</sup>. 60% of aneurysms are mycotic and 20% are associated with atherosclerosis. Bacterial endocarditis was common in affected patients<sup>(5,9)</sup>. Our case was of atherosclerotic origin. Rupture rate of SMA aneurysm was 38% and mortality rate was 40-60%.

CT angiogram is the most useful investigation<sup>(2)</sup>. The main surgical aim is removal of all necrotic and infected tissue and management of ensuing ischemia. Vascular reconstruction depends on the anatomic site of aneurysm and the patients underlying vascular status. Surgical approaches include aneurysmectomy, arterial reconstruction and rarely simple ligation<sup>(9)</sup>. In our case, since the proximal SMA was spared, we did excision of sac with interposition bypass using reversed saphenous vein.

Endovascular repair may be a preferable option in patients with severe cardiac or pulmonary disease<sup>(10)</sup>. Endovascular options include coil embolization and stent grafts. In general the literature that report results of endovascular intervention is limited to very small series and long term outcomes are difficult to assess.

## CONCLUSION

Because of the high risk of rupture and its associated mortality, repair of any SMA aneurysm is necessary regardless of size or symptomatology. We present this rare case report because of a large tender pulsating mass in the epigastric region which mimicked abdominal aortic aneurysm.

## FOOT NOTES

Conflict of interest : None

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