

Mesenteric Artery Stenosis Presenting as Severe Erosive Gastroduodenitis: A Rare Case Report With Long Term Follow-Up

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ABSTRACT

Superior Mesenteric artery ischemia is a rare condition with serious clinical consequences. It may be caused by either mechanical or non mechanical obstruction of the artery. These patients usually present with recurrent abdominal pain usually occurring after meals. We report a 45 yr old male, who presented with pain abdomen and epigastric burning sensation which increases with food consumption from the past 6 months. Patient was evaluated and was found to have severe erosive Gastroduodenitis which was secondary to superior mesenteric artery stenosis diagnosed on CT Abdomen. Patient underwent successful Superior Mesenteric Artery (SMA) stenting. Repeat upper gastrointestinal endoscopy during follow up after 1 year showed complete resolution of the duodenal mucosa and was asymptomatic.

Key words: Superior mesenteric artery stenosis, Duodenal ischemia, pain abdomen, Stenting.

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BACK GROUND

Superior mesenteric artery arises from abdominal aorta distal to celiac trunk. Anatomically it is located on the anterior surface of the aorta just at the lower part of the first lumbar vertebra. Mesenteric artery supplies lower part of duodenum, jejunum, Pancreas, Ileum, Ascending Aorta, Transverse colon, caecum.

Superior Mesenteric artery ischemia is a rare condition with serious clinical consequences. It may be caused by either mechanical or non mechanical obstruction of the artery. Mesenteric artery stenosis is a common finding in the elderly patients with atherosclerotic disease, with a prevalence of 17.5% in patients aged 65 yrs and above.¹ Atherosclerotic mesenteric stenosis usually are focal and most often located at the ostium or the proximal portion of these vessels.²

These patients usually present with recurrent abdominal pain usually occurring after meals.³ Therapeutic options include surgical reconstruction and percutaneous transluminal angioplasty with or without stenting.

CASE REPORT

We report 45 yrs old gentleman who came with complaints of epigastric burning sensation and pain in upper abdomen which increased after food since 6 months. He had no comorbid conditions-Type 2 diabetes mellitus, systemic hypertension, old ischemic heart disease. No contraindicating family history of cardiac or other illness.

Solicited consultations at several clinics & hospitals for above symptoms. He even underwent cardiac evaluation for postprandial angina which was normal. He was subjected to upper gastrointestinal (GI) endoscopy which showed erosive Gastroduodenitis. He was continued with antacids and proton pump inhibitors.

Since symptoms continued to worsen he consulted a multispecialty hospital. He underwent repeat upper GI endoscopy which showed worsen-

ing of the erosive Gastroduodenitis (Figure 1), the cause of which was suspected to be of ischemic origin. He was subjected to CT Abdominal angiogram which showed superior mesenteric artery (SMA) occlusion (Figure 2). He was referred to our institute for further management.

Through right femoral artery approach, abdominal aortic angiogram was done which showed total occlusion of SMA in its ostioproximal segment. A 6F selective SIM lateral guiding catheter and pilot PTA guide wire was used. Lesion was predilated followed by stenting with 7X29 mm GENESIS peripheral stent which was deployed at 6 ATM (Figure 3). Patient was discharged on 3rd day in a stable state.

On one year follow up he was asymptomatic and upper GI endoscopy showed healing of the mucosal erosions and also CT abdomen (Figure 4) showed patent stented segment. His 2 yrs follow up with upper GI endoscopy showed normal gastroduodenal mucosa (Figure 5).

DISCUSSION

The superior mesenteric artery (SMA) arises from the anterior surface of the abdominal aorta, 1 cm below the celiac trunk and is at the lower border of the first lumbar vertebra in an adult. It supplies the intestine from the lower part of the duodenum through two-thirds of the transverse colon, as well as the pancreas.

Mesenteric artery stenosis is a common finding in the elderly patients with atherosclerotic disease, with a prevalence of 17.5% in patients aged 65 yrs and above.¹ Mesenteric artery stenosis is usually due to atherosclerosis but rarely may be due to fibromuscular disease or trauma. Atherosclerotic mesenteric stenosis usually are focal and most often are located at the ostium or ostioproximal segments of these vessels.²

Symptoms being recurrent, debilitating abdominal pain, usually occurring within the first hour after meals. Hence also referred to as intestinal

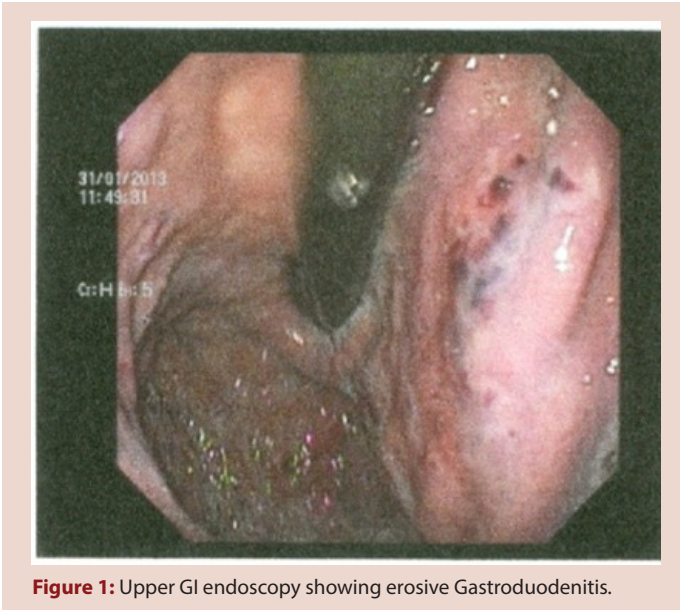


Figure 1: Upper GI endoscopy showing erosive Gastroduodenitis.

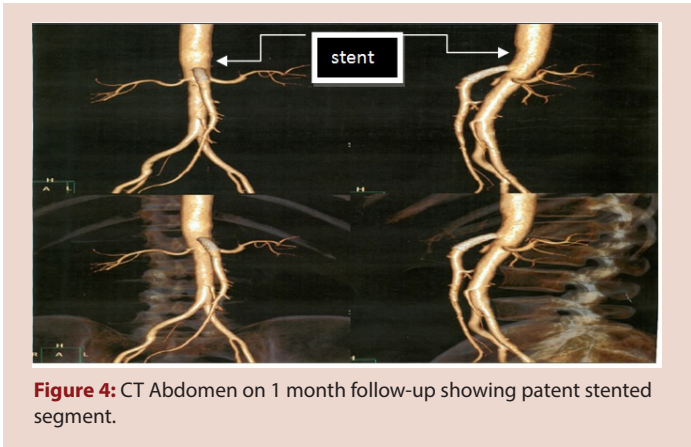


Figure 4: CT Abdomen on 1 month follow-up showing patent stented segment.

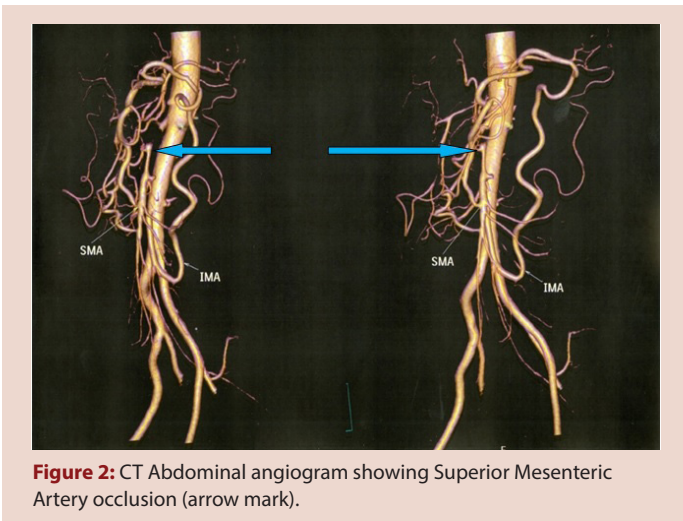


Figure 2: CT Abdominal angiogram showing Superior Mesenteric Artery occlusion (arrow mark).



Figure 5: Upper GI endoscopy after 2 yrs showing normal Gastroduodenal mucosa.

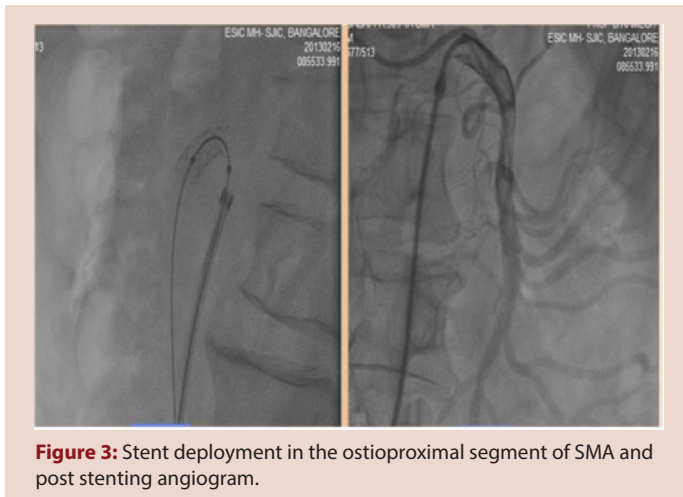


Figure 3: Stent deployment in the ostioproximal segment of SMA and post stenting angiogram.

angina.³ This is due to insufficient visceral blood flow during periods of heightened intestinal demands.⁴

Therapeutic options include surgical reconstruction and percutaneous transluminal angioplasty (PTA) with or without stent placement.⁵ Traditionally, SMA stenosis were treated with surgical revascularisation with high operative mortality (approximately 7.5%–10%).⁶⁻⁸ Endovascular treatment - PTA has become an alternative to surgery in many high risk surgical patients and is becoming the first line therapy in experienced centers. The procedural and clinical success rate of PTA has been reported to be greater than 80% and 75% respectively.⁹⁻¹¹ In PTA without stenting, restenosis of the dilated artery and recurrence of symptoms occur in 17-50% of patients within the first year. This reduces the efficacy and durability of balloon angioplasty. Matsumoto *et al.* Reported from his case series comparing PTA with and without stenting, that PTA with stenting was associated with lower incidence of complications and a higher technical and clinical success rate.¹²

We report our patient who was initially diagnosed as a case of acid peptic disease (APD) and later as postprandial angina secondary to coronary ischemia. Our patient actually had SMA stenosis and occlusion presenting as APD and postprandial angina. Patient successfully underwent PTA with stenting with dramatic improvement. His 2 yr followup with upper GI endoscopy showed normal gastroduodenal mucosa.

CONCLUSION

Superior Mesenteric Artery stenosis, a rare condition, it is known to present as recurrent abdominal pain with post prandial angina. It can also manifest as Severe Erosive Gastroduodenitis, as in this case. Endovascular treatment- PTA with stenting has been considered as a safe and effective treatment alternative to surgery.

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