

A Rare Case Report : Superior Mesenteric Artery Thrombosis With Celiac Artery Stenosis In A Case Of Splenic Infarct

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ABSTRACT

Superior mesenteric artery occlusion is disease of bad prognosis. Thromboembolism is the common cause of it. Outcome of this dreaded condition was depended on early detection and proper, surgical, or intravascular intervention to restoration of blood supply to bowel. Sometime may need resection of bowel and supportive measures. In this report, we report a case of a 52-year gentleman with stenosis of celiac artery which one is critical enough leading to infarction of spleen. He also had also superior mesenteric artery occlusion. Case presentation: A 52-year-old male presented with c pain in abdomen for 10 days. On Examination of Abdomen and pelvis, patient had tenderness in right lower quadrant of the abdomen with no obvious distension/rigidity/guarding. Ultrasonography of the Abdomen and Pelvis was done which revealed Old Splenic infarct. Investigations revealed Anaemia (7.4 gm%), high WBC count (55,000 cells/mm³), high platelet count (10.12 lakhs/mm³) with Normal Coagulation profile. Hence adequate blood transfusions were given to optimise the haemoglobin levels. Patient was also given higher antibiotics to control sepsis. Imaging suggestive of sub-acute to chronic thrombosis in mid & distal part of superior mesenteric artery, stenosis of ostium of celiac artery, mild bowel wall oedema of distal ileal loop suggestive of Bowel ischemia and Splenic infarct. Digital Subtraction angiography (DSA) suggestive of tight stenosis of the celiac artery associated with complete thrombotic obstruction of the superior mesenteric artery. he underwent celiac artery stenting with intra-arterial thrombolysis of Superior Mesenteric artery (SMA). Repeat angiography was done post procedure to shows the establishment of flow across the arteries. Patient got relieved from the symptoms gradually. Superior mesenteric artery (SMA) obstruction is known for its high fatality rate. Prompt intervention is a key to success otherwise it leads to drastic complications even death can occur. Interventional radiology is having major role in early phases and surgery work in later stages of this dreadful disease.

KEY WORDS: VASCULAR STENTING, THROMBOEMBOLISM, BOWEL ISCHAEMIA.

INTRODUCTION

Management of mesenteric and coeliac artery occlusion basically includes surgical exposure of abdomen see extent of intestinal ischaemia and restoration of blood supply to affected part of bowel. This restoration is possible with number of minimal invasive procedures and extensive open surgeries (Prateek K et al., 2015). Both acute and chronic mesenteric occlusion is a severe

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debleating disorder. In chronic disease it presents as pain in abdomen after eating and loss of weight. Chronic disease can disintegrate into acute mesenteric obstruction. Unfortunately, this fatal condition is underreported, under detected and not treated because of low awareness of clinician about this disorder. Contrast to popular belief the incidence of mesenteric ischaemia is on increasing trend as overall old population is increasing in volume with its disease like Diabetes and cardiovascular diseases. Hence, this case was reported to increase awareness of this disease in clinician helping for early diagnosis and intervention to restore blood supply of bowel without delay (Luke G et al., 2020).

Case report: A 52-year-old male patient came to Acharya Vinobha Bhawe Rural Hospital with chief complaints of pain in abdomen for 10 days. He had no chronic illness (like diabetes mellitus, hypertension, bronchial asthma), but has an addictive history of chronic alcoholism for 20 years. On general physical examination, Pallor present. His vial parameters including blood pressure, pulse rate, temperature and respiratory rate were normal. Examination of Respiratory, Cardiovascular & Central Nervous system of the patient was unremarkable. On Examination of Abdomen and pelvis, patient had tenderness in right lower quadrant of the abdomen with no obvious distension/rigidity/guarding. On Digital Rectal Examination (DRE), external haemorrhoids were noted at 5 and 7 O clock position with no other positive findings.

Ultrasonography of the abdomen and pelvis was done which revealed old Splenic infarct. Hence, the patient was admitted in the hospital for further evaluation & management. All routine lab investigations were sent on the same day of admission which showed Anaemia (7.4 gm%), high WBC count (55,000 cells/mm³), high platelet count (10.12 lakhs/mm³) with Normal Coagulation profile, Liver function test, Renal function test and Random Blood sugar. Hence adequate blood transfusions were given to optimise the haemoglobin levels. Patient was also given higher antibiotics (Inj. Piperacillin + tazobactam 4.5gms intravenously every 8 hourly & Inj. Metronidazole 500mg intravenously every 8 hourly) to control sepsis.

On second day of admission, Contrast Enhanced Computed Tomography (CE-CT) abdomen & pelvis was done which revealed sub-acute to chronic thrombosis in Mid & Distal part of Superior Mesenteric artery, stenosis of ostium of celiac artery, mild bowel wall oedema of distal ileal loop suggestive of bowel ischemia and splenic infarct. Hence Interventional Radiologist (IR) opinion was taken on 2nd day of admission for which Digital Subtraction angiography (DSA) was advised. Thus, DSA was done on 3rd day of admission and their findings were critical stenosis at the origin of the celiac artery with complete thrombotic occlusion of the superior mesenteric artery. Hence stenting with intra-arterial thrombolysis was advised by IR. Thus, patient was planned for celiac artery stenting with intra-arterial thrombolysis of superior mesenteric artery (SMA).

But during the radiological interventional procedure on 4th day of admission, patient developed ventricular tachycardia, which was settled by administration of lignocaine intravenously, but however the procedure was abandoned for evaluation of cardiac status post event. 2D Echocardiography was done on 5th day of admission which revealed normal study with no obvious abnormality. Thus, patient was kept under strict vigilance for 2 days after which he underwent celiac artery stenting with intra-arterial thrombolysis of superior Mesenteric artery (SMA) on 7th day of admission. Repeat angiography was done post procedure to check the establishment of flow across the arteries (Fig. 1 & 2). Patient got relieved from the symptoms gradually. Patient was allowed orally. patient developed no significant complaints thereafter. Thus, the patient was being discharged.

Figure 1: Diagrammatic presentation of angiography showing flow of dye in Superior Mesenteric artery (SMA) before the procedure(left) and after the procedure(right)

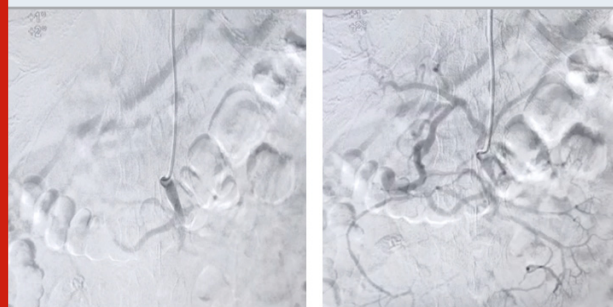
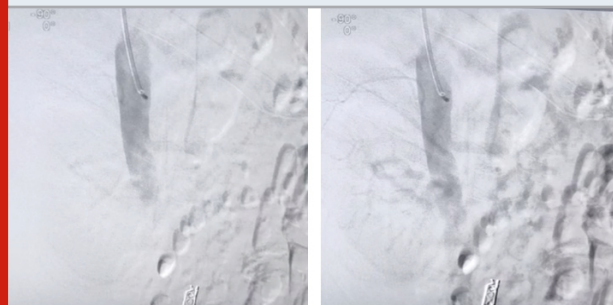


Figure 2: Diagrammatic presentation of angiography showing flow of dye in Celiac artery before the procedure(left) and after the procedure(right)



DISCUSSION

Exploratory laparotomy is very common procedure done in a case of mesenteric and celiac artery occlusion with or without minimal invasive restoration or revascularization procedures. with concomitant visceral artery. Prateek K. Gupta et al present a case of SMA ischaemia due to acute on chronic thrombotic occlusion. Patient was treated by percutaneous retrograde recanalization of superior mesenteric artery .it was done through collateral and catheter was passed through the celiac artery. Thrombolysis and percutaneous aspiration are the two options. They opted for percutaneous aspiration¹. This

case was like present case, but thrombolysis and stenting were done in present case.

Thrombotic occlusion of superior mesenteric artery is disease of poor prognosis associated with high fatality. Traditionally treated by exploratory laparotomy with removal non-viable bowel may combine with many endovascular or open revascularisation procedures. Laura Tod et al³ report an unusual patient of superior mesenteric artery (SMA) occlusion due to thrombosis. As the distal part of affected vessel was involved, it was not possible to do surgical bypass. Patient was having chronic post prandial pain as his chief complaint. This pain was treated by a spinal cord stimulator (SCS) as a conservative treatment.

Yi-Ren Liu et al conducted a retrospective study including eight cases of acute mesenteric ischaemia two years back in china. All patients have acute presentation as aetiologies was embolic obstruction of the SMA. patient was promptly diagnosed by imaging with computed tomography angiography (CTA). All patient treated by percutaneous endovascular recanalization of superior mesenteric artery. Fortunately, all patient does not show any evidence of bowel ischemia. Hence no resection of bowel required. These all cases are like present case. Romano, N. et al report a similar case having splenic infarct and bowel gangrene due involvement of both celiac and SMA. In this case a female of 40 years was affected. She was treated by urgent exploration and restoration blood flow was obtained by thromboendarterectomy with a Fogarty catheter.

Aditya Mehta et al⁷ report a case of splenic infarct secondary to thrombotic occlusion of aorta with involvement of SMA, celiac artery and renal artery. Fortunately, she responded to endovascular revascularization. Different studies on splenic system were reported. Studies from global burden of diseases also reflected similar cases.

CONCLUSION

Superior mesenteric artery (SMA) obstruction is known for its high fatality rate. Prompt intervention is a key to success otherwise it leads to drastic complications even death can occur. Interventional radiology is having major role in early phases and surgery work in later stages of this dreadful disease.

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