



Successful Treatment of Chronic Mesenteric Ischaemia By Aorto Mesenteric Bypass: A Case Report

KEYWORDS

CHRONIC MESENTERIC ISCHAEMIA, PROXIMAL SMA STENOSIS, AORTOMESENTERIC BYPASS

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ABSTRACT Chronic mesenteric ischaemia is a rare and potentially fatal condition most commonly due to atherosclerotic stenosis or Or occlusion of two or more mesenteric arteries. Multivessel revascularization of both primary mesenteric vessels, the celiac artery and superior mesenteric artery (SMA), is the current mainstay of treatment; Here we present a case involving 56 years old man with chronic mesenteric ischaemia. He was a high risk surgical patient with severe unreconstructable stenotic disease of proximal SMA. He was successfully treated with single vessel revascularization of superior mesenteric artery (SMA) by aorto mesenteric bypass using PTFE graft. At year follow up, the graft remains patent and the patient continues to be symptom free and is maintain his weight.

1. INTRODUCTION

Chronic mesenteric ischaemia is a uncommon and challenging presentation in avascular surgical unit. Diagnosis is difficult and often delayed with patients frequently presenting at an advanced stage. It is generally caused by atherosclerotic stenosis of atleast of a least two mesenteric vessels and can be life threatening due to malnutrition or bowel infarction. The principal goal of treatment is to reduce postprandial pain, prevent bowel infarction, and allow the patient to resume a normal diet and regain lost weight. Due to the rarity of this disease, individual and institutional experience is lacking and presently there is no consensus regarding optimal treatment. Current opinion favors a multivessel surgical recanalization of both visceral arteries, the celiac artery and superior mesenteric artery (SMA) [1-4]. However, in a certain cohort of patients, this may not be technically feasible. Extensive atherosclerotic disease, complete occlusion, or small caliber arteries may render these vessels surgically unreconstructable. Patients are often malnourished with multiple comorbidities and thus are at high perioperative risk. In such instances, stenotic proximal SMA bypassed by aortomesenteric bypass. We report cachexic 56 years old high risk patient with occluded proximal SMA treated successfully with revascularization of SMA by using PTFE graft (Aortomesenteric bypass).



Fig 1 and 2 CT Angiogram shows complete occluded Proximal SMA with multiple collaterals and dilated SMA beyond occlusion.

2. CASE REPORT

A 72 year male, smoker came to hospital with complaints of diffuse abdominal pain, post prandial abdominal discomfort and bilious vomitings. On examination, the patient was markedly cachexic, pulse was 90 beats per minute, and blood pressure and temperature were normal. Abdominal examination revealed mild tenderness all over abdomen. Blood results showed a mildly raised white cell count, other blood tests were normal. Abdominal CT scan with contrast demonstrated complete occlusion of proximal SMA, distal to occlusion SMA was markedly hypertrophied with extensive collateral vessels to the bowel. No arterial thrombi or emboli were seen. The patient was taken for laparotomy. Intraoperatively occluded proximal SMA and dilated distal SMA with extensive collaterals were seen, therefore stenotic part of SMA bypassed by PTFE graft, proximal end of graft sutured to aorta and distal end of graft sutured to dilated part of distal SMA. The patient was transferred to ICU, post operatively, patient made an uneventful recovery and was successfully introduced to a normal diet. After one week he was discharged. At one year follow up the patient remains asymptomatic and regained his lost weight. A duplex ultrasound revealed excellent flow in graft.





Fig 3 and 4 shows aortomesenteric bypass using PTFE graft.

3.DISCUSSION

Owing to relative rarity of this condition, there is no common consensus regarding the number of vessels to revascularise (one, two or three), the technique of revascularization (endarterectomy, antegrade, or retrograde bypass) or the type of bypass conduit (autologous or prosthetic). Current thinking favors multivessel revascularization of principle arteries, namely the SMA and celiac arteries to minimize the risk of recurrent ischaemia. Aortomesenteric bypass or transaortic mesenteric endarterectomy is established methods of revascularization with five year patency rate of over 85%.

In this case the SMA was revascularised through aortomesenteric bypass by using prosthetic Dacron graft. Transaortic endarterectomy of SMA was not attempted here due to high risk to the remaining visceral vessel. Endovascular repair of the SMA was also deemed too risky owing to the angle takeoff, high grade stenosis, and the risk of thrombosis of remaining visceral vessel.

There is extensive collateral circulation between the three visceral arteries. SMA and IMA vasculature communicate via several anastomotic pathways, namely, the marginal artery of Drummond, lying proximal to mesocolic border, and the Arc of Rioloan which is formed centrally via branches of the middle and left colic arteries. The SMA anastomosis with the celiac vasculature via superior and inferior pancrea-

ticoduodenal arteries and occasionally through the arc of Buhler .

The above case illustrates that, in patients who are suffered with chronic postprandial abdominal pain, revascularization of the SMA is an acceptable in alleviating symptoms, restoring small bowel function, and preventing bowel infarction.

5.AUTHOR'S CONTRIBUTION

Dr.Phanikrishnaravula and Dr.Nareshsiramula were the surgeons treating the patient and were involved in critically revising the draft for content.

REFERENCES

1. C.G Cunningham, L.M.Relly, J.H.Rapp, P.A.Schneider, and R.J.Stoney, "Chronic visceral ischemia: three decades of progress", *Annals of surgery*, vol.214, no.3, pp.276-288, 1991.
2. W.D.McMillan, W.J.McCarthy, M.R. Bresticker et al, "Mesenteric atreybypass: objective patency determination", *Journal of vascular surgery*, vol.21, no.5, pp.729-741, 1995.
3. K.Wayne Johnston, T.F.Lindsay, P.M.Walker, and P.G. Kalman, "Mesenteric arterial bypass grafts: early and late results and suggested surgical approach for chronic and acute mesenteric ischemia" *Surgery*, vol.118, no.1, p.1-7, 1995.
4. J.M. Rheudasil, M. T. Stewart, J. V. Schellack, R.B.Smith III, A.A.Salam, and G.D. Perdue, "Surgical treatment of chronic mesenteric arterial insufficiency," *Journal of vascular surgery*, vol.8, no. 4, pp 495-500, 1988.