Comment on: Percutaneous retrograde approach for mesenteric revascularization in chronic mesenteric ischemia

Sir,
We read with a great interest the manuscript titled “Percutaneous transluminal angioplasty and stenting in the management of chronic mesenteric angina: A single center experience” by Thomas et al. in the October–December 2016 issue of the Indian Journal of Radiology and Imaging (Volume 26, Issue 4). The manuscript is intelligently written with a beautiful depiction of the technique of endovascular management of patients with chronic mesenteric angina along with self-explanatory images. We would like to make a pertinent contribution.

In their study cohort of 13 patients, the authors managed the stenotic mesenteric vessel using percutaneous transluminal angioplasty/stenting with good clinical outcomes. Chronic mesenteric ischemia (CMI) is usually caused by obstruction of two or all three mesenteric arteries; moreover, multiple vessel revascularizations improve clinical outcomes. In many cases, as the authors mentioned, there is chronic total occlusion of at least one of the mesenteric vessel, which is difficult to cross endovascularly by the antegrade approach. However, to optimize the outcomes, even the completely occluded vessels may need to be revascularized, which may need alternative methods such as the retrograde transcollateral approach. We wish to highlight the management of chronic total occlusion of mesenteric vessel using retrograde revascularization technique, providing an
additional technique of endovascular management of chronic mesenteric angina.

Retrograde recanalization is based on the different histopathology of proximal and distal fibrous caps of chronic occlusions. The proximal cap has densely concentrated collagen-rich fibrous tissue whereas at the distal cap the tissue is loose. In addition, the distal cap has a convex shape in its proximal aspect increasing the chances of subintimal dissection when the wire is passed antegradely; however, have concave shape on its distal aspect facilitating penetration by wires from the retrograde direction.\[2\]

A 55-year-old female with symptoms of CMI was treated with coeliac artery percutaneous transluminal angioplasty/stenting elsewhere 6 months previously and presented with weight loss and recurrence of postprandial abdominal pain. Computed tomography (CT) abdominal angiogram showed mild in-stent restenosis of coeliac artery stent with dissection flap [Figure 1A, solid white arrow] in coeliac artery distal to stent. There was short segment complete total occlusion of the proximal superior mesenteric artery [Figure 1A and B, black arrows] for a length of 1.3 cm. Also noted was hypertrophied collateral in the pancreatic-duodenal arcade [Figure 1B, dashed white arrow]. On enquiry, there was a history of previous failed attempt of superior mesenteric artery (SMA) stenting. In view of the severe clinical symptoms and complete occlusion of SMA, endovascular revascularization of SMA using retrograde approach via pancreatic-duodenal arcade was sought.

Bilateral femoral accesses were taken and 6-Fr femoral sheaths were inserted using the seldinger technique. Flush aortogram showed flush occlusion of the proximal superior mesenteric artery with no evidence of a stump (precluding antegrade recanalization) and dissection with in-stent restenosis of 60% in coeliac trunk. Cobra (C2) (Terumo, New Jersey, USA) was negotiated via the true lumen of coeliac trunk into gastroduodenal artery [Figure 2A]. Using the roadmap injection of pancreatic-duodenal arcade, microcatheter and wire assembly was further negotiated into inferior pancreatic-duodenal artery and finally into SMA proximal to inferior pancreatic-duodenal artery [Figure 2B]. A 300-cm long 0.014” balance middleweight (Abott vascular, Santa Clara, California, USA) wire was passed through the microcatheter across the occluded segment of SMA into the aorta and then snared out through the left femoral sheath using 10 mm gooseneck snare (Medtronic, Minneapolis, Minnesota, USA). Over the snared wire, a 6-Fr guiding catheter was passed till the ostium of SMA [Figure 2C], and angioplasty was done using 2.5 × 12 mm Maverick balloon catheter (Boston scientific, Marlborough, MA, USA). A 0.035” glide wire (Terumo, New Jersey, USA) was passed across the SMA antegradely, and a 7 mm × 19 mm express vascular SD stent (Boston scientific, Marlborough, MA, USA) was deployed across the level of narrowing [Figure 2D]. Post stenting, intraprocedure angiography showed patency of SMA with good antegrade flow in mesenteric branches of SMA (E and F)

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.
Letters to the Editor

Suresh Giragani, Ankit Balani, D Prabakar1, Viswanath Reddy2
Departments of Interventional Radiology, 1Vascular Surgery, 2Gastroenterology, Yashoda Hospital, Hyderabad, Telangana, India
E-mail: drankitbalani@gmail.com

References


This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.