

# Mesenteric Occlusive Disease: When Is Endovascular Repair Justified, and When Is Open Repair Indicated?

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Although mesenteric vascular occlusive disease is found in up to 80% of individuals at autopsy, symptomatic ischemia is a far less frequent occurrence because of the typically well-developed collateral circulation. The celiac and superior mesenteric arteries provide 90% of intestinal arterial flow, and the inferior mesenteric and internal iliac arteries provide the remainder. With the collateral potential, as a general rule at least two-level involvement is necessary before symptoms develop. The diagnosis of mesenteric ischemia is often difficult and frequently delayed and the average reported time to diagnosis from symptom onset ranges from 13 to 17 months. Most patients with chronic symptoms have undergone a comprehensive gastrointestinal evaluation before a diagnostic arteriogram is considered.

Selection of patients and techniques for mesenteric revascularization remain a challenge. There are numerous reports in the literature summarizing results with open surgical revascularization; however, most institutional experiences are small and surgical judgment in many cases is founded on anecdotal bias. Several options are available that include reimplantation, endarterectomy and bypass grafting. Reimplantation of the celiac or SMA is rarely an option because of lack of mobility, as well as frequent disease involvement of the adjacent aorta. Transaortic endarterectomy can be considered, however most surgeons have limited familiarity with this technique. Difficulties with the latter may be encountered because of a severely diseased aorta as well as the potential inability to obtain a satisfactory endarterectomy end point, particularly with longer lesions.

Most surgeons favor a bypass technique, however, controversies exist with respect to specific factors such as number of vessels bypassed (single vs both SMA and celiac), choice of conduit (autogenous vs prosthetic), and configuration of the bypass (retrograde vs antegrade). There is insufficient data to favor any of these biases in the literature, and the decision for type of conduit and configuration of the bypass should be left to the individual surgeon's personal preference and as dictated by local factors encountered.

Percutaneous transluminal angioplasty (PTA) with or without stenting may be indicated in selected patients with focal lesions or in those with an unacceptably high operative risk. The results from outcome studies for endovascular intervention are as difficult to generalize as those for open repair, because of the small numbers reported from individual institutions. Good short-term success is usually possible, but there is general agreement that in younger, low-risk patients, durability is more likely achieved with open repair.

In summary, the decision for open repair or endovascular intervention must be individualized. In a high-risk patient with a technically suitable lesion, an endovascular approach is warranted. An endovascular approach is also an initial option in low-risk patients with a suitable lesion, but open repair is considered more durable. Open repair is indicated for unfavorable lesions (recurrence, long stenosis, or occlusion) provided that the patient can withstand the procedure.