A 74-year-old man, with a history of 3 coronary artery bypass grafts in 1991 presented with a non-ST-segment elevation myocardial infarction. Coronary angiography revealed a patent left internal mammary artery to left anterior descending artery with a severe native left anterior descending artery stenosis distal to the left internal mammary artery insertion, occluded left circumflex artery, and significant stenosis of the right gastroepiploic artery. Computed tomography angiography (CTA) volume-rendered image visualizing the right gastroepiploic artery graft with insertion prior to the right posterior descending artery. Curved multiplanar reconstruction of coronary CTA demonstrates significant length of right gastroepiploic artery and severe ostial stenosis of the celiac artery.

**FIGURE 1** CTA of Bypass Graft

(A) Computed tomography angiography (CTA) volume-rendered image visualizing the right gastroepiploic artery graft with insertion prior to the right posterior descending artery. (B) Curved multiplanar reconstruction of coronary CTA demonstrates significant length of right gastroepiploic artery and severe ostial stenosis of the celiac artery (arrow).
artery with collateral flow from the left anterior descending artery, occluded mid-right coronary artery with no distal flow, and an atretic right internal mammary artery with no significant flow. Coronary computed tomography angiography revealed the presence of a right gastroepiploic artery (RGEA) graft to the posterior descending artery and severe stenosis of both celiac and superior mesenteric arteries (Figure 1).

Angiography of the celiac artery revealed no visible gastroepiploic flow (Figure 2, Online Video 1). Angiography of the superior mesenteric arteries revealed a patent graft to the right posterior descending artery (Figure 3A, Online Video 2). Improvement in RGEA flow to the posterior descending artery as well as symptomatic improvement was noted post-intervention to the superior mesenteric arteries (Figure 3B, Online Video 3).

RGEA grafts for myocardial reperfusion have been in use for over 40 years as a bypass conduit for the right coronary artery (1). Due to the complexity of the procedure, complications from vessel spasm, inadequate flow capacity, and poor patency rates, RGEA is not a favored conduit for coronary artery bypass grafts (1,2). This patient had no evidence of RGEA graft disease after 21 years, which is consistent with recent

**FIGURE 2 Celiac Artery Angiography Displaying No Direct Flow Into the RGEA Graft**

Invasive angiography demonstrates severe ostial stenosis of the celiac artery (arrow). Competitive flow of unopacified blood from the superior mesenteric artery is seen filling the pancreaticoduodenal arcades and right gastroepiploic artery (RGEA) graft (Online Video 1).

**FIGURE 3 SMA Angiography With Intervention**

(A) Superior mesenteric artery (SMA) with severe ostial stenosis is seen under invasive angiography. Distally, collaterals from the pancreaticoduodenal arcade supply blood to the right gastroepiploic artery graft. The celiac artery is also seen with retrograde filling via collaterals (Online Video 2). (B) Angiography of the SMA after placement of stent demonstrating improved flow to the right gastroepiploic artery graft. Thus, ischemia to posterior descending artery improved via intervention to the SMA (Online Video 3).
data suggesting that the 5 to 15 year patency rate of gastroepiploic artery grafts is around 87%; although better than saphenous vein grafts at 68%, this is still inferior to left internal mammary artery grafts at 96% (3).

REFERENCES


REPRINT REQUESTS AND CORRESPONDENCE: Dr. James Lee, Piedmont Heart Institute, Cardiac CT/MRI, 1628 Briarcliff Road NE, Apartment 3, Atlanta, Georgia 30306. E-mail: jameschilee@hotmail.com.

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APPENDIX For accompanying videos, please see the online version of this paper.