Authors have nothing to disclose with regard to commercial support.

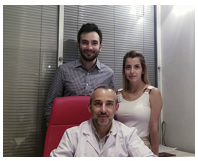
Dr Cooley's designation of father status to this one man among others who helped move CABG forward.

Faisal G. Bakaeen, MD
Lars G. Svensson, MD, PhD
Center for Coronary Revascularization
Department of Thoracic and Cardiovascular Surgery
Heart and Vascular Institute
Cleveland Clinic
Cleveland, Ohio

References

1. López-de la Cruz Y, Quintero Fleites Y. Do not forget other fathers of coronary artery bypass grafting! *J Thorac Cardiovasc Surg*. 2020;159:e65.
2. Bakaeen FG, Blackstone EH, Pettersson GB, Gillinov AM, Svensson LG. The father of coronary artery bypass grafting: René Favaloro and the 50th anniversary of coronary artery bypass grafting. *J Thorac Cardiovasc Surg*. 2018;155:2324-8.
3. Cooley DA. In memoriam. Tribute to Rene Favaloro, pioneer of coronary bypass. *Tex Heart Inst J*. 2000;27:231-2.
4. Sheldon WC, Favaloro RG, Sones FM Jr, Effler DB. Reconstructive coronary artery surgery. Venous autograft technique. *JAMA*. 1970;213:78-82.

https://doi.org/10.1016/j.jtcvs.2019.06.095



INTERNAL THORACIC ARTERY: A MAJOR COLLATERAL SUPPLY IN CASE OF LERICHE SYNDROME

To the Editor:

We read with great interest the article by Bosse and colleagues,[1] in which they presented a case series of cardiac surgery combined with bypass from the ascending aorta to the bilateral femoral arteries in patients with severe aorta-iliac occlusion.

Combined coronary artery disease and peripheral vascular disease remain highly common among the population,[2] and the management of such multivascular disease is usually a clinical challenge in case of Leriche syndrome. In patients with aorta-iliac occlusive disease, interruption of critical collaterals may cause limb-threatening ischemia. Therefore, the left internal thoracic artery (LITA) should be considered with precaution in patients with significant peripheral vascular disease, and lower-extremity perfusion should be fully characterized before coronary artery bypass grafting (CABG).[3] In patients in whom the lower body flow is established through the LITA, CABG using saphenous vein or gastroepiploic artery grafts may be preferred to not harm important collaterals.[3] On the other hand, a well-developed LITA may yield a better-quality conduit for CABG and could be used if simultaneous or staged operations of CABG with lower-limb revascularization are considered. The risk/benefit assessment of using the LITA in a combined procedure should be made delicately in these rare cases.

A total of 6 of the 8 patients in this case series underwent combined CABG procedures. However, the authors do not present information on which conduits were used for CABG, whether patients' lower-extremity perfusion was established through the LITA, and the information about the quality of LITA conduits if used for the CABG operation. Concomitant coronary and peripheral revascularization is used at our institution,[4,5] as in many others, with promising long mid- to long-term results.

Although conduit selection in CABG combined revascularization in those with Leriche syndrome is controversial because of unclear risk/benefit assessment of using the LITA graft, the 2017 European Society of Cardiology guidelines recommend that the autologous great saphenous vein should be spared for potential future use for surgical peripheral revascularization in patients with advanced lower-extremity arterial disease.[6] The importance of the LITA collateral for lower-extremity perfusion should be assessed against the importance for giving a chance for future surgical revascularization and delays in the wound healing due to saphenous vein harvesting in severe lower-extremity arterial disease. Contrary to the European Society of Cardiology guidelines, although the LITA is the preferred conduit for the left anterior descending artery bypass during CABG, in this particular patient group, the LITA may be enlarged depending on providing sufficient flow to the lower-extremity perfusion; thus, it may not be a suitable conduit because of the diameter discrepancy between the LITA and the left anterior descending artery.[4,5]

Once again, the authors are to be congratulated for their case series in cardiac surgery combined with ascending aorta bifemoral bypass experience.[1] However, it would be more informative for the readers if the authors could have provided detailed information about the conduit selection for CABG. This may also be helpful in the future to establish a revascularization protocol together with available literature review in this particular patient population.

Mert Meric, MD[a]
Didem Melis Oztas, MD[b]
Murat Ugurlucan, MD[c]
[a]*Istanbul Medical Faculty*
Department of Cardiovascular Surgery
Istanbul University
Istanbul, Turkey
[b]*Cardiovascular Surgery Clinic*
Bagcilar Education and Research Hospital
Istanbul, Turkey
[c]*Medical Faculty*
Department of Cardiovascular Surgery

Authors have nothing to disclose with regard to commercial support.

Istanbul Medipol University
Istanbul, Turkey

References

1. Bosse C, Ramadan R, Fabre D, Guihaire J, Robinson LP. Cardiac surgery combined with bypass from the ascending aorta to the bilateral femoral arteries for severe aorto-iliac occlusion: a case series. *J Thorac Cardiovasc Surg*. 2017; 155:1574-7.
2. Fowkes FG, Low LP, Tuta S, Kozak J. Ankle-brachial index and extent of atherothrombosis in 8891 patients with or at risk of vascular disease: results of the international AGATHA study. *Eur Heart J*. 2006;27:1861-7.
3. Ben-Dor I, Waksman R, Satler LF, Bernardo N, Torguson R, Li Y, et al. A further word of caution before using the internal mammary artery for coronary revascularization in patients with severe peripheral vascular disease! *Catheter Cardiovasc Interv*. 2010;75:195-201.
4. Öztaş DM, Uğurlucan M, Sayın Ali Ö, Barburoğlu M, Alishev N, Göksel Selçuk O, et al. Ascending aortobifemoral bypass surgery simultaneously with coronary revascularization. *Turk Gogus Kalp Dama*. 2015;23:366-70.
5. Goksel OS, Ugurlucan M, Alpagut U, Tireli E, Dayioglu E. Concomitant coronary and peripheral arterial disease: single-stage revascularization. *J Card Surg*. 2008; 23:246-7.
6. Aboyans V, Ricco JB, Bartelink MEL, Björck M, Brodmann M, Cohnert T, et al; ESC Scientific Document Group. 2017 ESC guidelines on the diagnosis and treatment of peripheral arterial diseases, in collaboration with the European Society for Vascular Surgery (ESVS): document covering atherosclerotic disease of extracranial carotid and vertebral, mesenteric, renal, upper and lower extremity arteries. Endorsed by: the European Stroke Organization (ESO)The Task Force for the Diagnosis and Treatment of Peripheral Arterial Diseases of the European Society of Cardiology (ESC) and of the European Society for Vascular Surgery (ESVS). *Eur Heart J*. 2018;39:763-816.

https://doi.org/10.1016/j.jtcvs.2019.06.096

REPLY: ATTENTION TO DETAIL…AND COLLATERAL FLOW

Reply to the Editor:

In a previous report, Bosse and colleagues[1] described the use of bypass grafting from the ascending aorta to the femoral arteries concomitant with coronary artery bypass grafting to treat patients with combined coronary artery disease and severe aortoiliac occlusive disease. In the Letter to the Editor in this issue of the *Journal*, Meric and colleagues pose a highly relevant concern relating to the use of such an approach in treating these patients; that is, one must consider the collateral flow to the lower extremities, specifically its reliance on the internal thoracic arteries. Pursuant to recommendations in treating coronary artery disease, using an internal thoracic artery as a bypass conduit in this patient cohort may lead to disruption of critical collateral perfusion. With this in mind, what can one expect in the setting of a concomitant ascending aorto-femoral bypass procedure as described by Bosse and colleagues? Would the impact of disrupting antegrade collateral flow (by using an internal thoracic graft to treat the coronary artery disease) be mitigated if an aorto-femoral bypass is also performed leading to predominantly retrograde flow to lower abdominal and pelvic vessels? On first pass, one would expect that there would not be significant ischemia or compromised perfusion to these vessels with this combined approach. On the other hand, disruption of antegrade collateral flow does not always have predictable consequences. Perhaps, one can propose that saphenous vein bypass grafting of coronary arteries may be a better compromise, accepting its diminished durability and acknowledging the potential need for lower-extremity revascularization. Or one can consider the use of the radial artery as a conduit, recognizing that any existing renal dysfunction may require later use of this artery for hemodialysis access. Clearly, further discussion in the treatment of these patients will require detailed follow-up. Bosse and colleagues[1] thus are positioned to provide much needed counsel based on their current experience and are encouraged to provide additional guidance in the upcoming years.

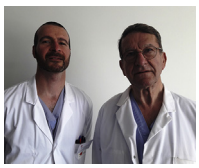
James I. Fann, MD
Department of Cardiothoracic Surgery
Stanford University
Stanford, Calif

Reference

1. Bosse C, Ramadan R, Fabre D, Guihaire J. Cardiac surgery combined with bypass from the ascending aorta to the bilateral femoral arteries for severe aorto-iliac occlusion: a case series. *J Thorac Cardiovasc Surg*. 2018;155:1574-7.

https://doi.org/10.1016/j.jtcvs.2019.07.016

Author has nothing to disclose with regard to commercial support.



REPLY FROM THE AUTHORS: LIMB ISCHEMIA AFTER INTERNAL THORACIC ARTERY HARVESTING FOR CORONARY ARTERY BYPASS GRAFTING IS PREVENTED BY BYPASS FROM THE ASCENDING AORTA TO BILATERAL FEMORAL ARTERIES IN PATIENTS WITH LERICHE SYNDROME

Reply to the Editor:

Dr Meric and colleagues emphasize the need for concomitant lower-limb revascularization in patients with Leriche syndrome associated with severe coronary artery