The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

which we respectfully, disagree. First, off-pump coronary arterial bypass grafting (CABG) may be a great tool for expert surgeons as surgeries without cardiopulmonary bypass definitely offer several advantages. A number of authors have demonstrated excellent off-pump CABG outcomes by experienced hands; however, this does not mean that such good results are generalizable to average cardiac surgeons or to the real-world practice where variations in the level of surgical performances do exist among surgeons and institutions. Leading professionals are always responsible for pioneering and exploring the cutting edge of their field; however, as physicians, practice guidelines should best reflect the current atmosphere. Currently available evidence does not seem to support superiority of off-pump CABG compared with conventional CABG even through a large-scale randomized trial conducted by expert CABG surgeons.³ Therefore, the author's arguments may be confined to their institutional experience in this regard. Secondly, although the authors argue that the Arterial Revascularization Trial (ART) has no power to analyze subgroups due to its limited sample size, its sample size of the subgroup aged ≥ 70 years is nearly twice as large as that of the author's study.⁴ Even considering all the limitations of ART raised by the authors, ART is still the best evidence to date and has shown equivalent outcomes between bilateral and single internal thoracic artery procedures in this patient group. Navia and colleagues¹ deserve respect for all their efforts as leading-edge surgeons in the field of CABG. Such efforts should be encouraged even more to develop ideal strategies in coronary revascularization therapy; however, general acceptance of their results in daily common practice should be viewed in a balanced sense.

Sung Jun Park, MD

Joon Bum Kim, MD, PhD

Department of Thoracic and Cardiovascular Surgery

Asan Medical Center

University of Ulsan College of Medicine

Seoul, South Korea

References

1. Navia D, Espinoza J, Vrancic M, Piccinini F, Camporotondo M, Dorsa A, et al. Bilateral internal thoracic artery grafting in elderly patients: any benefit in survival? *J Thorac Cardiovasc Surg*. October 3, 2020 [Epub ahead of print].

2. Navia D, Espinoza J, Vrancic M, Piccinini F, Camporotondo M. Commentary: bilateral internal thoracic artery grafting in elderly patients makes sense indeed. *J Thorac Cardiovasc Surg*. October 3, 2020 [Epub ahead of print].
3. Lamy A, Devereaux PJ, Prabhakaran D, Taggart DP, Hu S, Straka Z, et al. Five-year outcomes after off-pump or on-pump coronary-artery bypass grafting. *N Engl J Med*. 2016;375:2359-68.
4. Taggart DP, Benedetto U, Gerry S, Altman DG, Gray AM, Lees B, et al. Bilateral versus single internal-thoracic-artery grafts at 10 years. *N Engl J Med*. 2019;380:437-46.

<https://doi.org/10.1016/j.jtcvs.2020.12.101>

**REPLY: MİLLE VIAE
DŪCUNT HOMINĒS
PER SAECULA
RŌMAM**

Reply to the Editor:

I read with great interest the author's letter based on their article reporting exemplary outcomes using bilateral internal thoracic arteries among elderly patients receiving coronary artery bypass grafting.¹ "Mille viae dūcunt hominēs per saecula Rōmam" translated from the Latin means "a thousand roads lead men forever to Rome." This phrase likely refers to the "Millarium Aureum," a monument erected by the Emperor Caesar Augustus in central Rome. However, proverbially, it translates to the idea that there are many acceptable ways to reach the same goal.²

I believe that all physicians work toward a common aim: providing the best possible care for their patients. Yet how they achieve that common endpoint often depends on individual skill, circumstance, and environment. Expanding indications for transcatheter therapies have led to a decline in open surgical procedures.³ Hospital reimbursements for procedures continue to decline. Surgeons often receive a very small fraction of the reimbursed amount⁴ but are subject to careful external scrutiny.⁵ In this highly complex world, each physician must carve his or her own path toward the common goal.

Yet, as Navia and colleagues correctly proclaim, I too recommend that we go for it!

Salil V. Deo, MD

Surgical Services

Louis Stokes Cleveland VA Medical Center

Northeast Ohio VA Healthcare System

Cleveland, Ohio

References

1. Navia D, Vrancic M, Piccinini F, Camporotondo M. Bilateral internal thoracic artery grafting in elderly patients makes sense indeed. *J Thorac Cardiovasc Surg*. 2022;164:e88.
2. Dictionary CE. The Cambridge English Dictionary. Accessed December 29, 2020. Available at: <https://dictionary.cambridge.org/us/dictionary/english/all-roads-lead-to-rome>
3. US Food and Drug Administration. FDA expands indication for several transcatheter heart valves to patients at low risk for death or major complications associated with open-heart surgery; 2019. Accessed December 29, 2020. Available at: <https://www.fda.gov/medical-devices/heart-valves/fda-expands-indication-several-transcatheter-heart-valves-patients-low-risk-death-major-complications-associated-open-heart-surgery>

The author reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

www.fda.gov/news-events/press-announcements/fda-expands-indication-several-transcatheter-heart-valves-patients-low-risk-death-or-major

4. Birkmeyer JD, Gust C, Baser O, Dimick JB, Sutherland JM, Skinner JS. Medicare payments for common inpatient procedures: implications for episode-based payment bundling. *Health Serv Res.* 2010;45(6 Pt 1): 1783-95.
5. Jha AK. Public reporting of surgical outcomes: surgeons, hospitals, or both? *JAMA.* 2017;318:1429-30.

<https://doi.org/10.1016/j.jtcvs.2021.01.004>

REPLY: SKELETONIZED BILATERAL INTERNAL THORACIC ARTERY GRAFTING IS A QUALITY METRIC IN CORONARY ARTERY BYPASS GRAFTING

Reply to the Editor:

I read with interest the letter to the editor by Navia and colleagues.¹ After commending the published outcomes of their evolving coronary artery bypass grafting (CABG) technique over last 2 decades, based on the routine use of total arterial revascularization by composite T skeletonized bilateral internal thoracic artery (BITA) grafting in 95% of their patients undergoing CABG, including in elderly patients, I have several important points to further discuss.

First, indeed, as the authors mention, the Arterial Revascularization Trial (ART)² suffered from several flaws. The 14% crossover rate (from BITA to single internal thoracic artery [SITA]) and the 22% “unexpected” use of radial artery (RA) in the SITA group, as well as the difference between the “intention-to-treat” neutral outcomes versus the significant survival advantage with multiarterial grafting (MAG) in the “as-treated” analyses, are also well known and discussed. However, an eye-opening editorial by Taggart³ raises several additional crucial flaws in ART that for some reason tend to be ignored by the “nonadvocates” of BITA grafting. Apparently, in ART, the participating surgeon’s experience in using BITA grafting was never validated by the investigators (participating surgeons were supposed to perform >50 BITA cases before being included in ART). Admittedly, not validating it was a serious mistake, since the crossover rate for individual surgeons in ART varied from 0% to an astonishing 100%, which

indicates that there were surgeons participating in ART who were completely incompetent with BITA grafting. In addition, patients crossing from BITA to SITA had proven significant inferior outcomes. However, most importantly, surgeons with more than 50 BITA cases in ART had a significant reduction in mortality and in composite end points at 10 years in the “intention-to-treat” analysis! Hence, if that requirement would have been validated and enforced, the results of ART would most probably well confirm BITA outcome superiority over SITA. This definitely provides another important perspective on ART and an overall additional insight on flaws in some randomized trials. A great example is the recently published randomized RAPCO (Radial Artery Patency and Clinical Outcomes) trial,⁴ comparing RA versus right internal thoracic artery (RITA) outcomes, and concluding that RA outperforms RITA in terms of patency and survival at 10 years. It is beyond the scope of this letter to discuss this study’s flaws in detail, suffice to say that the RITA conduits were all only pedicled, only free, and sewn proximally only to the aorta! This decision was made to maximize comparability between the RA and RITA but unfortunately does not reflect the current practice and use of RITA, as shown in the current study¹ and in many recent others. In addition, the RAPCO results completely contradict a much more comprehensive and inclusive benchmark patency study⁵ published 9 years ago by the same surgical group, which clearly concluded that “Late patencies of RITA are excellent, equivalent to the LITA for identical territories, always better than radial arteries and saphenous vein grafts, and remain free of atheroma. Use of RITA in addition to LITA, is associated with excellent survival in triple vessel coronary disease. More extensive use of RITA in CABG is recommended.” Notably and as previously published, the RITAs in that study⁵ were reported to be all skeletonized! Hence, I would argue that declaring that the RA is “the free conduit of choice,” based on the RAPCO trial, would be a terrible mistake. Those differences in RITA patency may be related to how and where the RITA was used rather than to its real structure and function.

Second, the authors are to be commended for their uniquely uniform adaptation by all surgeons of their total arterial CABG strategy. The question is how could their strategy be generalized, and how to build a MAG program. In a recent publication,⁶ it was proposed that the first step to acquire core skills in a MAG program is proficiency in skeletonized harvest of the ITA. I completely agree. Handling the ITA is different and of a greater technical demand compared with RA and saphenous vein grafts, requiring superb dexterity, and the earlier you begin harvesting and sewing BITA, the more proficient, fast, and secure you will become in all of its versatile configurations. Mastering skeletonization of both ITAs should be step 1 and a prerequisite for a MAG surgeon before start performing ITA