Authors have nothing to disclose with regard to commercial support.

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5. Thourani VH, Razavi SA, Nguyen TC, Kilgo PD, Puskas JD, Guyton RA, et al. Incidence of postoperative stroke using the Heartstring device in 1,380 coronary artery bypass graft patients with mild to severe atherosclerosis of the ascending aorta. *Ann Thorac Surg*. 2014;97:2066-72.

<https://doi.org/10.1016/j.jtcvs.2017.11.038>

USE OF CLAMPLESS FACILITATING DEVICES IN PATIENTS WITH LOW-GRADE AORTIC DISEASE: IS THE COST JUSTIFIED BY THE THEORETIC RISK REDUCTION?

Reply to the Editor:

I appreciate the commentary of Formica and colleagues regarding the use of clampless facilitating devices (CFDs) in patients undergoing coronary artery bypass grafting (CABG). The quest to reduce stroke after CABG has led to numerous observational and prospective trials with a variety of approaches, including off-pump CABG, anaortic approaches, hybrid revascularization, and CFDs. With regard to my group's recent prospective, randomized trial,¹ we agree with Formica and colleagues that there were limitations with our study, specifically that the primary end point was a surrogate for stroke, transcranial Doppler high-intensity transient signals (HITS) rather than a hard clinical end point. Nonetheless, we anticipated a reduction in HITS in the CFD group, supporting the use of these devices, but the results did not support our hypothesis. Selection bias, which is a major limitation of many observational studies, including those from our own institution,² was minimized in this study with randomization.

Nonetheless, what our randomized, controlled trial did show was that HITS increased proportionally to the number of devices used and that the total numbers of gaseous and solid HITS detected were higher in the CFD group than in the partial-clamp group. I agree with Formica and colleagues that many of these HITS may have represented gaseous rather than solid microemboli, but the transcranial Doppler technology used in this trial was insufficiently sensitive to differentiate reliably the two. Furthermore, I agree that transcranial Doppler technology is associated with its own limitations.

The current issue is whether patients with low-grade aortic disease in whom CABG is performed off pump truly benefit from the use of CFDs. This is not the same as an anaortic approach, which I also agree is probably associated with the lowest stroke risk. It is important to acknowledge

that this trial excluded patients with more advanced aortic disease (grade III-V), because our current practice is to avoid any clamping of these aortas. The use of epiaortic ultrasonography in this study allowed us to evaluate a homogeneous group of patients undergoing CABG. In addition, because of the current climate of cost containment, it is important to consider that the cost of each Heartstring device (MAQUET Holding B.V. & Co. KG, Rastatt, Germany) to the hospital is approximately \$500 to \$700, without a clearly defined benefit in the patient population that was studied.

Our recommendations on the basis of our results was that for patients undergoing off-pump CABG with low-grade aortic (grade I-II) disease, as determined by epiaortic ultrasonography, there was no observed benefit in HITS between patients randomized to receive CFDs versus partial clamping of the aorta. Clearly, surgical decision making in the operating room is needed to determine the best proximal anastomosis strategy for patients undergoing CABG, and we agree that CFDs are an important tool when clinically indicated.

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<https://doi.org/10.1016/j.jtcvs.2018.01.035>

A TUG ON THE HEARTSTRINGS Reply to the Editor:

After the publication of "Operative Strategies to Reduce Cerebral Embolic Events During On- and Off-Pump Coronary Bypass Surgery: A Stratified, Prospective Randomized Trial" by Halkos and colleagues¹ from Emory University School of Medicine, a letter to the editor was submitted by Drs Formica, D'Alessandro, and Amerigo Messina² from