

## In reply

To the Editor,  
Yoandy López-de la Cruz in his letter submits that the internal thoracic artery (ITA) is fed by at least three arterial systems and an increase in the diameter of the artery by sympatholysis will not cause a significant increase in its antegrade flow, since at the same time, the endoluminal resistance to that flow also increases (competition). He also mentions that occluding the distal end of ITA at the beginning of its preparation abolishes early flow competition.<sup>[1]</sup>

I thank Yoandy López-de la Cruz for the keen interest shown in our study titled “ Combined effect of left stellate ganglion blockade and topical administration of papaverine on left internal thoracic artery blood flow in patients undergoing coronary revascularization”.<sup>[2]</sup> The idea for this study was based on the study conducted by Gopal *et al.*<sup>[3]</sup> where they provided objective data (using fluoroscopy) about vasodilation in the left ITA after Stellate Ganglion Blockade (SGB) using fluoroscopy in 30 patients undergoing coronary angiogram and thus postulated this technique of SGB to be of use in patients undergoing coronary artery bypass grafting (CABG).

Dönmez A *et al.*<sup>[4]</sup> also conducted a similar study and demonstrate the increase in the size of radial artery and ITA after SGB in patients undergoing CABG.

Internal mammary artery is maximally susceptible to spasm and vasoconstriction in the immediate postoperative period, especially in view of the extensive handling of the artery during the dissection.<sup>[5]</sup> There are numerous publications available in the literature over the years regarding the use of vasodilators for preventing internal mammary artery spasm after harvesting for CABG, including papaverine,<sup>[6]</sup> nitroglycerine, calcium channel inhibitors, and phosphodiesterase inhibitors. The purpose of using pharmacological agents or a stellate ganglion block is to minimize the resistance to blood flow in the graft by preventing vessel spasm.

In our trial,<sup>[2]</sup> we tried the use of preemptive stellate ganglion block to prevent the vasoconstriction and spasm of left ITA and utilized flow rate from the cut end of ITA as a way of numerically quantifying our hypothesis. We found that the vasodilatory effects of left SGB are nonadditive to that of papaverine. This was probably because papaverine alone was adequate

to completely inhibit the noradrenaline-induced contraction of left ITA.

Distal to the anastomosis of left ITA with left anterior descending artery, blood flow into the coronaries is affected not only by the size of the ITA proximal to anastomosis, but also by numerous other factors including resistance at the site of anastomosis, lie of the vessel, angle of grafting, and competitive flow. In our practice, the distal occlusion of ITA is done after heparinization.

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Nil.

### Conflicts of interest

There are no conflicts of interest.

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