Reply to the Letter to the Editor

Reply to Aazami

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We appreciate the interest of Dr Aazami on our work on coronary blood flow in patients with or without sinuses of Valsalva [1]. The new vascular prosthesis used in our patients was without doubt designed and promoted for its advantages in facilitating the surgical procedure and in reducing the tension on the coronary ostia anastomoses as clearly described in our previous articles [2,3] and its use has never been indicated for its possible prompting effects on coronary blood flow. Similarly, other possible implications, like the better expected longevity of stented bio-prosthesis as suggested by Dr Aazami or the better wash out at the base of the valve prosthesis, have been always considered as theoretical speculations [3]. With a similar approach we tried to speculate on the possible benefits, if present, of the sinuses of Valsalva on coronary blood flow. As a matter of fact, the use of this new Dacron graft offered us the possibility of a good experimental model to investigate if the sinuses of Valsalva might play a role in regulating the coronary blood flow or if their function is merely to regulate the opening and closing of the aortic valve. Regarding to the specific questions we would like to point out:

(1) The Doppler-wire was positioned into the LAD until an optimal and stable signal was obtained. A good signal is usually recorded within the first 3–4 cm from the ostium and is referred as middle portion of the LAD. One year follow-up is usually considered a significant time for satisfactory myocardial recovery.

(2) With respect to the pathophysiologival settings, all patients were a mix of aortic valve stenosis and insufficiency and at the time of the experimental evaluation they were comparable for ventricular volumes, wall thickness and contractility as shown in Table 2.

(3) We agree that the augmentation of the systolic fraction under maximal vasodilatation do not support, per se, a direct role of the sinuses of Valsalva on CBF, as clearly pointed out in our discussion.

(4) For the sake of clarity through the manuscript we always referred to the baseline diastolic systolic integral ratio (DSIR) and its variation after adenosine infusion. However, as an example in group B patients the diastolic peak velocity integral (DPVi) and the systolic peak velocity integral (SPVi) at baseline were 14.1 ± 3.1 and 2.8 ± 0.9 cm/s, respectively, and after adenosine infusion they increased to 42.5 ± 12.3 and 10.8 ± 4 cm/s, respectively, while in group C patients they were 13.2 ± 2.8 and 3.8 ± 1.2 cm/s, respectively, and increased to 48 ± 17.8 and 16.6 ± 8.5 cm/s, respectively.

In conclusion, we want to stress our idea of using patients with different anatomical reconstructions of the aortic root simply as an experimental model to investigate the potential role of the sinuses on coronary blood flow.

References


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Letter to the Editor

Leaflet arrest in St Jude and CarboMedics valves: an experimental study

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I read with interest “Leaflet arrest in St Jude Medical (SJM) and CarboMedics valves: an experimental study” by Gratton and associates [1] which appeared in the EJCTS June, 2004. In this paper, the authors presented two cases in which SJM Masters series aortic valves were found to be in a ‘frozen’ position following implant.

The authors then developed an experimental model consisting of a pushrod which provided variable point pressure against the ring of the prosthesis directed at 180 degrees. Given our understanding of aortic root anatomy in both health and disease, I feel that the model in no way duplicates the forces on a prosthetic valve following aortic valve replacement.