With great interest, we have read the letter from Dr. Saleh et al. concerning our recently published article ‘Minimally invasive mitral valve surgery is a very safe procedure with very low rates of conversion to full sternotomy’ in the EJCTS [1]. We very much appreciate the comments from this expert group and it is our pleasure to respond.

The minimally invasive approach through a right-sided mini-thoracotomy has developed remarkably over the past decade and has become the preferred method for mitral valve surgery in specialized centres. Despite a vast body of experience that has been gathered to date, this operation still remains a challenge, due to the limited operative space, an extended distance from the chest wall to the mitral valve and the need for specialized equipment and operative tools [2].

Chitwood et al. introduced the transthoracic aortic clamp to facilitate secure clamping of the aorta. Significant limitations of the endoaortic occlusion system have led to this innovation [3]. We have used this so-called ‘Chitwood clamp’ since its introduction into clinical practice. Our practice reconfirms the high applicability, effectiveness and safety of this technique: nevertheless, special care needs to be given to vital cardiovascular structures—such as the left atrial appendage and the pulmonary arteries—when clamping the aorta [4]. This is a well-known subject and Chitwood and his group have repeatedly alluded to this potential problem.

With their letter, Chitwood and colleagues again take an active role in the continuing development of minimally invasive mitral valve surgery and refer to the valuable option of using hypothermic ventricular fibrillation, especially for redo cases without severe aortic insufficiency. We do underline this recommendation and congratulate the authors on their great experience and eminent results.

As we have previously reported, we have used hypothermic fibrillation (HF) in patients undergoing redo surgery in over 40% of these patients [5]. Similarly to Chitwood’s group, using HF, we were able to achieve a very low conversion rate, low incidence of major vascular injury and superior perioperative mortality. Nevertheless, we did encounter a relatively high risk of perioperative stroke, so far for unknown reasons. An investigational study is currently being undertaken to identify the mechanism of stroke in this special subset of patients. Therefore Arcidi et al. are to be congratulated on their low incidence of cerebrovascular events [6].

Based on our vast clinical experience—and despite the low risk of aortic clamp-associated major adverse events—we do underline our recommendation to use the Chitwood clamp whenever possible: it does represent the primary technique for aortic occlusion. However in cases when aortic cross-clamping appears to be of high risk, hypothermic fibrillation provides a feasible option.

REFERENCES