Minimally invasive mitral valve surgery: still possible when aortic clamping is judged unsafe

Hesham Z. Saleh*, Hazaim Alwair and W. Randolph Chitwood Jr

Department of Cardiovascular Sciences, East Carolina Heart Institute, Brody School of Medicine at East Carolina University, Greenville, NC, USA

* Corresponding author. Department of Cardiovascular Sciences, East Carolina Heart Institute, Brody School of Medicine at East Carolina University, 115 Heart Drive, Greenville, NC 27834, USA. Tel: +1-252-744-4536; fax: +1-252-744-9004; e-mail: hzayed@hotmail.com (H.Z. Saleh).

Received 20 September 2012; accepted 2 November 2012

Keywords: Minimally invasive surgery • Hypothermic fibrillation

We read with great interest the recent article by Vollroth et al. [1], describing their experience with conversion to sternotomy during minimally invasive mitral surgery. The authors are to be congratulated on the low incidence of conversion (1%) that they have reported. The high early mortality (23.5%) associated with conversion in their series remains a reminder of the gravity of such an occurrence, even in experienced hands.

Given the fact that 14 of the 34 conversions described were related to the application of the Chitwood clamp, the authors recommend that, with any difficulty encountered during its placement, the option of elective conversion should be considered [1]. In our experience, elective conversion was seldom a consequence of difficulty clamping the aorta. Whenever clamping the aorta is judged unsafe, our alternative strategy is opting for hypothermic fibrillation (HF) as a means of myocardial protection. Over the past few years, our threshold for shifting towards HF has been increasing. We recently reported on our experience with the minimally invasive approach in patients who had a previous sternotomy, where aortic clamping is commonly judged to be unsafe due to dense adhesions. HF was used in 77% of these patients without a single incidence of conversion to sternotomy. Contrary to a common notion, there was no relationship between HF and cerebrovascular accidents [2]. Similarly, previous reports from the authors’ own institution reported exactly the same pattern of adoption of HF (77%) in redo cases [3]. Other authors also reported an increasing trend towards the use of HF in minimally invasive surgery with satisfactory results [4].

Given the demonstrated safety of HF in redo cases, it seems reasonable to extend its use to other clinical situations where aortic clamping is judged unsafe because of a diseased or a dilated aorta. As minimally invasive mitral surgery gains more ground, surgeons are likely to become increasingly exposed to similar situations. And mastering alternative means of myocardial management, rather than opting to convert to a full sternotomy, is a more practical approach.

Finally, we would like to commend the authors for a fine article and look forward to their response.

REFERENCES