Letter to the Editor

How can we obtain maximal benefits from partial left ventriculectomy?

Mustafa İdiz, Cüneyt Konuralp*, Mustafa Ünal

Department of Cardiovascular Surgery, Siyami Ersek Thoracic and Cardiovascular Surgery Center, Istanbul, Turkey

Received 22 December 2000; accepted 21 January 2001

Keywords: Batista; Ventriculectomy; Heart failure; Papillary muscle; Tricusbid insufficiency

We read with great interest the article (November, 2000) by Drs Vural and Taşdemir [1]. We have several concerns regarding the paper.

As the authors emphasized, posterior left ventriculectomy or Batista procedure is an important surgical option for severe or end-stage heart failure.

We think the amount and extension of resected viable muscle segment is a very crucial point for this special procedure.

We noticed, in 41% (11/27) of the patients, the authors included anterior papillary muscle (APM) in the resected wall muscle. Although, they did not compare two techniques (resection vs. preservation of APM), we prefer to protect APM. It is clear that they defend resecting as large as possible of the left ventricular (LV) myocardium to obtain maximum benefit. However, Felipe and his colleagues [2] did not find any correlation between LV ejection fraction changes and the degree of myocardium resection.

In the other 59% (16/27) of the patients, they did not resect the APM, but they replaced the mitral valve without reattaching the cords to the ventricular wall.

Batista procedure improves systolic function while decreasing diastolic compliance, resulting in reduced ventricular function [3]. Thus, immediate hemodynamic improvements appear to drive mainly from a reduced severity of mitral regurgitation. Ventriculectomy ensures acute remodeling of the heart and decreasing chamber volume/mass ratio. Numerous clinical and experimental studies demonstrate the importance of preserving papillary continuity of the mitral valve. Lillehei [4] first reported on the preservation of papillary muscles and chordae tendinea and its benefits to ventricular function following mitral valve replacement (MVR). High incidence of postoperative ‘low cardiac output syndrome’ after MVR, subsequently introduced techniques of preservation of the mitral apparatus. Studies by Hansen [5] and Sarris [6] using load-independent measurement of LV contractility demonstrated that a division of all chordae tendinea was accompanied by a 47% reduction in LV maximal systolic elastance ($E_{\text{max}}$).

Furthermore, the effects of chordal detachment and reattachment on LV function were assessed by load-independent measurements of $E_{\text{max}}$. When all chordae were detached, a significant decline of LV contractility was seen, which has subsequently restorated to baseline levels after reattaching the native chordae by repair of the papillary muscles. Maintaining of chordal, annular, subvalvular continuity and mitral geometric relationship are considered very important in valvular surgery. These parameters maybe even more important for the patients with severely compromised LV function.

We think, for the ventricles that really need help, it is luxury that neglecting all of the advantageous we discussed above, just because of the fear of papillary muscle distortion.

Hepatomegaly, an important sign of the right heart failure, is considered as a strong indicator for the operative mortality. We couldn’t find the incidence of tricusbid valve insufficiency accompanied to the hepatomegaly in the paper. Also, there is no any statement that if they did any surgical procedure (like annuloplasty, replacement) to the tricusbid valve. If they did not perform any procedure to the right side, why didn’t they consider it? We would like to learn their opinion in this subject.

Finally, we want to correct some clerical errors in the paper. There are discrepancies between text (or Table 1, abstract) and Table 3 for preoperative LVESV (259 ± 66 ml vs. 251 ± 52 ml) and LVEDV (342 ± 83 ml vs. 335 ± 68 ml) values.

* Corresponding author. Ayse Çavuş Sokak, No: 7/6, Huzi Apt., Suadiye 81070 Istanbul, Turkey. Tel./fax: +90-216-3633642.
E-mail address: ckonuralp@usa.net (C. Konuralp).
We would like to thank the authors for their contributions to such an important subject.

References