is slightly different from other chordal preservation techniques. We congratulate them on their excellent results.

According to the described technique, the incision is carried out to both commissure and the leaflet is widely mobilized. Then it is reimplanted as a large patch under the posterior leaflet with three or four U stitches and its basal portion without chordae is trimmed to remove excess tissue. The remnant with all the chordae is resuspended and plicated on the mitral annulus. Fuster et al. [1] has used this technique in rheumatic pathology with bioprosthesis and bileaflet mechanical prostheses. It has been proposed by the authors that this technique solves the two primary problems generally encountered with chordal preservation during mitral valve replacement: interference with the prosthesis and left ventricular obstruction [1].

However, we think that the primary concern of the chordal preservation technique is to improve or at least maintain left ventricular functions in the postoperative period. Therefore, we have some concerns about the postoperative left ventricular performance after this technique. Would Fuster et al. tell us about left ventricular functions of the patients who underwent mitral valve replacement using this technique? Did they evaluate the effect of this technique on cardiac performance in the postoperative early- or mid-term by comparing with a control group that underwent another chordal preservation technique? The technique by Fuster et al. [1] resembles the technique by Feikes et al. [2] which was described in 1990. Furthermore, Moon et al. [3] reported that the left ventricle pressure—volume relationship did not differ between the techniques by Feikes et al. [2] and Khonsali and Sintek [4]. The function of papillary muscles may be preserved in both techniques. However, we think that anterior regional wall motion does not necessarily improve with posterior transposition of anterior leaflet because the movement of posterior wall may be excessively strengthened by the preserved chordae. Anterior chordal sparing techniques such as reported by Khonsali and Sintek [4] and Kuralay et al. [5] may maintain adequate global and regional cardiac function after mitral valve replacement. Several modifications can also be done for reducing left ventricular outflow tract obstruction in these techniques. But the main thing in both leaflet preservation is reattaching the chordae in the natural position to improve left ventricular performance. The authors claimed that the techniques described by Khonsali are time consuming and require prolonged clamping time. We do not agree with him. Every effort should be made to increase left ventricular performance and reattach the chordae into the natural position during the leaflet preserving mitral valve replacement. We are also not sure whether the technique by Fuster et al. [1] increases left ventricular performance more than other natural position reattachment techniques do.

In fibrotic leaflet tissue conditions such as rheumatic pathology, the technique described by Fuster et al. [1] allows implantation of a prosthesis in a larger size. We also agree that the technique eliminates left ventricular outflow obstruction.

References


article were included in group 3. They were retrospectively compared (data not published). At 1-year follow-up, LV volumes were reduced in groups 2-3 (preoperative end-diastolic volumes: 166 ± 5, 170 ± 1 ml; postoperative: 155 ± 1, 154 ± 3 ml). In group 1, volume increased (168 ± 2 to 175 ± 3 ml) and LVEF declined over time. Persistence of pulmonary hypertension (PSAP > 40 mmHg at 1 year) was higher in group 1: 48.6 vs 32.5 and 23.2% (p < 0.01). Only a trend in improved outcomes was observed in group 3 with respect to group 2 and in 'posterior transposition' patients when compared with other patients in group 3.

(c) In Feikes technique the anterior leaflet is incised in the midline and two segments are turned backwards. In our technique, the leaflet is incised at its base, completely detached and implanted posterolaterally as a large fibrotic-calcified patch (as a protective curtain of posterior atrioventricular groove).

(d) 'Natural position' is a fictitious term. Secondary chordae attach to the ventricular surface of the leaflet. Their 'natural position' is not the anterior annulus, they are moving across the mitral orifice. Moon et al. [3] published a sophisticated study in dogs comparing conventional MVR with anterior and posterior chordal-sparing techniques. Conventional MVR was associated with depression in systolic contractility. Certain parameters suggested that systolic function was better after anterior than after posterior MVR, but the relative changes did not attain statistical significance. Soga et al. [4] described a chordal-sparing technique using ePTFE chordae: one for the anterior papillary muscle is attached at the 9–10 o’clock position on the mitral annulus, and the other for the posterior papillary muscle at 5–6 o’clock. An ‘oblique’ direction enhanced systolic function with better results than anterior, posterior and counter directions [5]. A modification of our technique should be an ‘oblique transposition’: A1 segment reattached at 9 o’clock and A3 at 5–6 o’clock. Anyway, we agree with the comment by Moon and co-workers: ‘...in selecting which type of chordal-sparing technique to use, the choice should also be based on other factors, including the simplicity and reproducibility of the technique...’; an important consideration in rheumatic mitral valve disease.

References


Letter to the Editor

Guided cerebral protection in cardiac surgery

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Papantchev et al. [1] have to be congratulated for providing clinicians valuable information based on their extensive anatomical examination of the main cerebral arteries (circle of Willis) in 112 cadavers. The results from this study show the need for reassessing the current perioperative care of cardiac patients in at least three areas: (1) demonstration of the high prevalence of anatomical variations in the circle of Willis (42%) stresses the need for preoperative CT-angiographic imaging of the cerebral vascular network; (2) a low-to-normal blood pressure and/or selective cerebral perfusion (SCP) could be blamed for increasing the risk of diffuse watershed strokes by preventing washout of small emboli and by limiting perfusion in brain areas with abnormal vascular supply; (3) with a broader understanding of the frequency and mechanisms of neurological injuries, we should be able to tailor personalised neuroprotective strategies that may considerably improve quality of life after cardiac surgery.

Several clinical investigations have demonstrated the usefulness of both the bispectral index (BIS) of the electroencephalogram and the transcranial Doppler (TCD) monitoring of the cerebral blood flow to detect neurological dysfunction in critically ill patients and in those undergoing cardiac surgical procedures [2,3]. For instance, sudden falls in BIS or near-infrared spectroscopy (NIRS) values are highly suggestive of ischaemic-induced cerebral events in patients with atheromatous vascular disease as a result of malposition of the arterial cannula or disruption of an atheromatous plaque (aortic cross-clamping and ‘sandblasting effect’ of the high-velocity pump