References

[1] Brooks SJ. Two cases of abnormal coronary artery of the heart arising from the pulmonary artery: with some remarks upon the effect of this anomaly producing cirsoid dilatation of the vessels. J Anat Physiol 1866;20:26–32.


EComment: Management of mitral regurgitation associated with anomalous left coronary artery from the pulmonary artery

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doi: 10.1510/icvts.2009.208215A

The introduction of the coronary elongation technique as described by Novick et al. [1] presents a simpler surgical alternative to anomalous left coronary artery from the pulmonary artery (ALCAPA) repair and the authors deserve commendation for their ingenuity.

The controversy in ALCAPA repair, however, still remains in the management of associated mitral regurgitation (MR). Knowing that MR is likely to subside without a mitral procedure, the surgeon is faced with the choice of repairing the valve or hoping for a spontaneous recovery.

According to Ben Ali et al.’s report [2], regardless of the severity of MR, if patients did not undergo mitral surgery at initial operation, the severity of MR decreased in 58%, remained unchanged in 40% (of which three patients underwent reoperation for mitral valve repair) and worsened in 2%. They suggested that mitral valve surgery is probably not indicated at initial surgery, except in selected cases with a low potential of recovery [2]. The challenge therefore lies in the preoperative identification of MR with a low potential for recovery.

On the basis of its mechanism in this setting, MR may be classified as either functional or organic. Functional MR results from ischemia of the papillary muscle and the adjacent left ventricular (LV) free wall as well as annular enlargement occasioned by the LV dilatation. Functional MR is improved by successful LV revascularization. Organic MR, however, results from irreversible changes in the subvalvar apparatus (chordal elongation and papillary muscle fibrosis) and forms the basis of MR after stable or worsening after LV revascularization. In addition, Huddleston et al. [3] have suggested that recurrent or persistent MR after successful revascularization should prompt a search for coronary stenosis. It would appear then that the preoperative evaluation of MR in ALCAPA should focus on identification of organic MR; functional MR even when severe should be adequately addressed with successful LV revascularization. Organic MR obviously requires a mitral valve procedure. Should this be performed at the initial surgery, the ischemic time will be prolonged and may jeopardize an already ischemic LV.

Deferring the mitral procedure may compromise the early postoperative cardiac output but with successful revascularization, LV systolic function may improve sufficiently to offset this.

References


