Images in cardio-thoracic surgery

Significance of effective-height caliper for the repair of quadricuspid aortic valve

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A 67-year-old woman presented with severe aortic regurgitation (AR) with quadricuspid valve (Video 1). Intraoperatively, the thickened edge of non-coronary cusp (NCC) was shaved, and the NCC and small accessory cusp were sutured to obtain one competent cusp, aiming at an effective height of 8 mm (Figs. 1 and 2, Video 2). Her AR remained trivial in the postoperative sixth month (Video 1).

Appendix A. Supplementary data

Supplementary data associated with this article (Video 1 and Video 2) can be found, in the online version, at doi:10.1016/j.ejcts.2011.02.063.

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A photograph captured intraoperatively (a) and schematic representation of QAV (b) as viewed through the aortotomy. The right and left coronary cusps were almost normal in size and had sufficient effective height. While the noncoronary cusp (NCC) was relatively thick and large, the accessory cusp (AC) was too small to independently act as a competent cusp. The raphe between the NCC and AC was restricted toward the annulus (arrow), R, right coronary cusp; L, left coronary cusp; N, non-coronary cusp; A, accessory cusp.

Fig. 1. A photograph captured intraoperatively (a) and schematic representation of QAV (b) as viewed through the aortotomy. The right and left coronary cusps were almost normal in size and had sufficient effective height. While the noncoronary cusp (NCC) was relatively thick and large, the accessory cusp (AC) was too small to independently act as a competent cusp. The raphe between the NCC and AC was restricted toward the annulus (arrow), R, right coronary cusp; L, left coronary cusp; N, non-coronary cusp; A, accessory cusp.

A photograph captured intraoperatively (a) and schematic representation of the repaired aortic valve (b). After detaching the restricted raphe between the NCC and AC and shaving the thickened NCC (arrowhead), the NCC and AC were sutured together by placing 4 interrupted sutures using 5-0 polypropylene (arrow).

Fig. 2. A photograph captured intraoperatively (a) and schematic representation of the repaired aortic valve (b). After detaching the restricted raphe between the NCC and AC and shaving the thickened NCC (arrowhead), the NCC and AC were sutured together by placing 4 interrupted sutures using 5-0 polypropylene (arrow).