Hemostatic modifications of the Bentall procedure: Imbricated proximal suture and fibrin sealant reduce postoperative morbidity and mortality rates.

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Abstract:

Bleeding is an important predictor of morbidity and mortality rates after the Bentall operation. This study reports our recent experience with composite aortic root replacement via a slightly modified button-Bentall operation. Fifty-six consecutive patients underwent a Bentall operation on an elective basis from January 2008 through December 2009. In all cases, we used 2 modifications: we imbricated the pledgeted 2-0 polyester interrupted U stitches of the proximal suture line, and at that same suture line we sealed with fibrin glue the possible sources of oozing. The series featured high proportions of associated procedures (25%) and reoperations (23%). The mean cardiopulmonary bypass and aortic cross-clamp times were 166 +/- 50 and 113 +/- 27 min, respectively. No case of operative or hospital (30-day) death was observed. Postoperative drainage amounted to 705 mL (median) on the first postoperative day and 377 mL (mean) on the second. Surgical re-exploration for bleeding was needed in only 1 patient (1.8%). Postoperative acute kidney injury was observed in 5 patients, neurologic complications in 3, and respiratory insufficiency requiring prolonged mechanical ventilation in another 3. Both respiratory and renal complications were significantly associated with greater consumption of blood products (P=0.03 and P=0.001, respectively). We conclude that the combined use of imbricated proximal suture-line stitches and subsequent fibrin-sealant spraying were associated with no deaths and with low rates of bleeding and other adverse postoperative sequelae in our 2-year experience with the Bentall operation in an elective

series of patients characterized by a difficult mixture of prognoses.