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Primary sutureless repair for "simple" total anomalous pulmonary venous connection: midterm results in a single institution.

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Abstract

OBJECTIVE:

We have previously reported the use of an atriopericardial or "sutureless" repair for surgical management of postoperative pulmonary vein stenosis. The potential of avoiding geometric distortion of pulmonary venous suture lines and preventing post-repair pulmonary vein stenosis encouraged us to extend the use of this technique for primary "simple" total anomalous pulmonary venous connection repair.

METHODS:

Between January 1997 and July 2009, 57 consecutive patients (median age, 15 days; median weight, 3.4 kg) underwent sutureless or conventional total anomalous pulmonary venous connection repair.

RESULTS:

Types of total anomalous pulmonary venous connection included supracardiac in 31 patients (54%), cardiac in 15 patients (26%), and infracardiac in 11 patients (19%). Median follow-up time was 2.9 years. Preoperative mean pulmonary vein score, a composite measure of stenosis in all 4 pulmonary veins, was 0.3/0-12, and vertical vein obstruction was found in 35 patients (61.4%). A primary sutureless repair was carried out in 21 patients (36.8%; supracardiac, n = 12; cardiac, n = 4; infracardiac, n = 5). The sutureless repair group had proportionally greater high-risk infracardiac total anomalous pulmonary venous connection (24% vs 16%, P = .05). Primary outcomes of death or reoperation for pulmonary vein stenosis and postoperative pulmonary vein scores (0.2 ± 0.7 vs 0.7 ± 1.7 , P = .26) were not different between the techniques.

CONCLUSIONS:

The sutureless repair group had proportionally more infracardiac total anomalous pulmonary venous connection and a higher rate of decline in postoperative right ventricular systolic pressure. Despite increased preoperative risk, no difference was observed in primary outcomes of death and reoperation in the conventional repair group.