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LATE ARTERIAL SWITCH FOR TRANSPOSITION OF THE GREAT ARTERIES

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Objectives

Evaluation of pulmonary artery banding with adaptable pulmonary artery band (PAB) versus conventional PAB in patients requiring a late arterial switch operation for transposition of the great arteries (TGA)

Background

In late diagnosis of TGA the LV involutes as it pumps against low resistance. The LV needs retraining in preparation for an arterial switch. We report our results with different techniques.

Methods:

10 patients underwent retraining of the LV, 6 pts had a traditional PAB placed (group 1) with additional creation of an ASD (5), aortopulmonary shunt placement (3) and PDA ligation (1). 4 pts had a telemetrically adaptable PAB placed without associated procedures (group 2).

Results:

Mean weight and age at PAB was 5.8 kg and 7.4 mths for group 1, 5.8 kg and 11.7 mths for group 2. Time between palliation and switch was 4.2 mths in both groups.

Group 1 showed an increase in banding gradient from 49 to 68 mmHg at the time of the switch. 4 pts required reoperations before switch, 2 of these had 1 re-operation and 2 had 2 re-operations. 2 pts died, 1 after PAB and 1 after switch. Group 2 showed an initial banding gradient of 26 mmHg at 5% closing of the PAB. Progressive closure of the PAB led to a mean gradient of 64 mmHg at the time of switch. There were no re-interventions or deaths.

Conclusions:

Retraining of the LV by the adaptable PAB allows precise control of the tightening, avoids repetitive surgery and minimises morbidity.