
AP Target Symposium

AP Target Symposium 4 (III-APT4)

Optimizing results in staged surgical management of functionally univentricular hearts – Preparation rather than Selection for Fontan

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Sun. Jul 9, 2017 8:30 AM - 10:15 AM ROOM 3 (Exhibition and Event Hall Room 3)

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[III-APT4-04] Surgical preparation for Fontan. Atrioventricular valve repair

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A competent non-stenotic atrioventricular valve is essential for optimal long term outlook. Risk of atrioventricular valve regurgitation is greatest for individuals with a single tricuspid valve or a common atrioventricular valve, followed by patients with two atrioventricular valves and least for those with a single mitral valve.(1) Patients with a common atrioventricular valve are a challenging group to repair due to wide variation of valve morphology which includes patients with heterotaxy syndrome and unbalanced atrioventricular canal defect. Successful repair nearly always includes approximation of the central zone of apposition or "cleft" between the bridging leaflets.(2, 3) Additional strategies include suture annuloplasty and partial commissural closure.(4, 5) The approximation of the central zone of apposition may be combined with the addition of a structural support using a polytetrafluoroethylene strip to decrease the anterior-posterior dimension and take stress off the central leaflet suture line and may be useful in smaller, younger patients.(6, 7) Especially among individuals with heterotaxy syndrome, abnormal cardiac position such as mesocardia and dextrocardia may complicate exposure of the valve and intraoperative assessment of the source of regurgitation may not reflect the mechanism when the heart is in normal position. Therefore, careful study of the preoperative studies are necessary to identify the areas of regurgitation and surgery should be planned according to this evaluation rather than solely on the intraoperative assessment. For the patient with hypoplastic left heart syndrome, tricuspid regurgitation may be due to both intrinsic abnormalities of the tricuspid valve as well as acquired abnormalities including annular dilatation as well as elongation of subvalvar apparatus due to ischemia resulting in leaflet prolapse. Partial or complete suture annuloplasty will reduce annular dilatation and treatment of leaflet prolapse can be managed with partial or complete commissural closure.(8, 9) As repair strategies become more radical such as requiring leaflet augmentation or artificial cords the durability of repair decreases. Mitral valve repairs are the least common. Repairs may be directed at approximation of a persistent zone of apposition or "cleft". Additional procedures include partial or complete annuloplasty either suture or ring, partial commissural closure and edge-to-edge repair. Most patients with single ventricle anatomy can achieve a reasonable outcome with valve repair and although reoperation is common this can often be combined with staged palliation.

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