**INTRACARDIAC CAVOPULMONARY CONNECTION IN PATIENTS WITH UNIVENTRICULAR HEART USING INTRA-ATRIAL LATERAL TUNNEL AND INTRA-ATRIAL CONDUIT TECHNIQUES**

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Background:In this study, we analyzed the time course of hemodynamic efficiency and follow-up in Fontan candidates who underwent the bidirectional Glenn procedure for staged intracardiac cavopulmonary connection (ICPC).

Methods:Between 1991 and 2008, 52 patients with univentricular heart (mean age, 3.3 years; range, 2-8 years; 27 female patients [51.9%]) underwent ICPC. The cardiac malformations were as follows: tricuspid atresia, 25 cases (48.0%); common ventricle, 16 cases (30.7%); and pulmonary atresia with intact ventricular septum, 11 cases (21.1%). The intracardiac cavopulmonary procedure was indicated for all 52 cases. In 42 patients (80.7%), an intra-atrial lateral tunnel was constructed with a bovine pericardium patch. In the last 10 consecutive cases (19.3%), we performed a modified surgical technique in which we implanted an intra-atrial corrugated bovine pericardium tube sutured around the superior and inferior vena cava ostium. In all cases, a 4-mm fenestration was made to reduce the intratunnel pressure. All 52 patients had previously undergone a Glenn operation.

Results:There were 2 hospital deaths (3.8%) and no recorded late deaths. During the follow-up, all patients were medicated with antiplatelet drugs. To evaluate the hemodynamic performance, we used Doppler echocardiography, computed tomography, and magnetic nuclear resonance studies. There were no prosthesis thromboses during this follow up period. To evaluate cardiac arrhythmias, we conducted a Holter study. The last 10 patients with an intra-atrial conduit (IAC) presented with sinus rhythm and no arrhythmias during the last 4 years. The 50 surviving patients (96.1%) have been followed up for 6 to 204 months; all these patients are free of reoperation.

Conclusion:The Glenn operation, which is performed at an early age, prepares the pulmonary bed to receive the ICPC. The midterm results of the intracardiac Fontan procedure seem to be good. The modified surgical procedure (IAC) can be a good alternative technique to the Fontan procedure in suitable patients.