

EDITORIAL COMMENT

Jorge Casanova

Serviço de Cirurgia Torácica, CHSJ
Departamento de Fisiologia e
Cirurgia Cardiorácica, FMUP
jbocasanova@gmail.com

Contemporary operative results of complete atrioventricular septal defects

"If everyone is moving forward together, success takes care of itself."

Henry Ford

In a recent past, surgical correction of complete atrioventricular septal defects, carried significant morbidity and mortality related to residual intracardiac residual shunts, left atrioventricular valve regurgitation, pulmonary hypertension and cardiac arrhythmias. Operative mortality has been steadily decreasing from 10 to 15%^{1,2}, in the last decade of the 20th century to less than 3%³ in present time, including no operative mortality in selected institutional series.^{2,4}

The excellent surgical results reported in this paper from Sena et colleagues⁵, highlight some of the advances that made possible this improvement, namely the mandatory echocardiographic control in the operative room, providing immediate quantification of the left atrioventricular valve regurgitation and presence of significant residual shunts, the advances on cardiopulmonary bypass and myocardial protection allowing for extra pump runs when necessary to achieve an optimal surgical result, the appearance of selective pulmonary vasodilators, specifically inhaled nitric oxide and oral sildenafil permitting the control of pulmonary hypertensive crisis, the overall improvement in the peri-operative care of these patients, namely in anaesthesia and pediatric intensive care allowing surgical repair in early infancy and low weight patients, thus avoiding the deleterious effect of the long-standing left to right shunt on ventricular performance and pulmonary circulation and, finally but not the least, the cumulative experience that cardiac surgeons in activity inherited from their less younger colleagues.

Comparisons of operative techniques are limited by different Eras, Surgeons, Institutions and variable anatomy. The three techniques have demonstrated similar good results respecting left AV valve regurgitation, left ventricular outflow tract obstruction and residual shunts, when tailored to each patient characteristics.

REFERENCES

1. Crawford FA, Stroud MR. Surgical repair of complete atrioventricular septal defect. *Ann Thorac Surg.* 2001;72:1621-8.
2. Airaksinen R, Matila I, Jokinen E, Salminen J, Puntilla J et al. Complete Atrioventricular Septal Defect: Evolution of Results in a Single Center During 50 years. *Ann Thorac Surg* 2019; 107:1824-30.
3. T Louis JD, Jodkka U, Jacobs JP, Xia H. Contemporary outcomes of complete AVSD repair: Analysis of the STS congenital heart surgery database. *Circulation* 2010;122:S209-15.
4. Janai AR, Bellinghausen W, Turton E, Bevilacqua C, Zakhary W, Kostelka M, et al. Retrospective study of complete atrioventricular canal defects: Anesthetic and perioperative challenges. *Ann Card Anesth.* 2018; 21:15-21.
5. Sena A, Sheytanov V, Liebrich M, Narr A, Schweigmann U, Uhlemann F, Doll N, Tzanavaros I. Twelve years of complete atrioventricular septal defect repair. *Rev Port Cir Cardiorac Vasc.* 2019; 26(3):187-193.