

Late outcome of surgical remodeling of the right ventricle in congenital heart disease, using porcine pulmonary prosthesis

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Background. The reconstruction of the right ventricle outflow tract in congenital heart disease has deserved the interest of cardiac surgeons determined to alleviate the anatomic obstruction and to return the right ventricular function.

Method. From June 1991 to September 2008, 203 consecutive patients, aged 4 months to 35 years (mean=3.0) were operated. They were classified in 5 groups: G1- tetralogy of Fallot with pulmonary hypoplasia, 144 (70.9%) cases; G2- Pulmonary atresia with ventricular septal defect, 32 (15.7%) cases; G3- *Truncus arteriosus*, 12 (5.9%) cases; G 4 - Transposition of the great arteries with left ventricle outlet tract stenosis, 8 (3.9%) cases and G 5 - Pulmonary atresia with intact ventricular septum, 7 (3.4%) cases. Remodeling surgery of the right ventricle consisted in the ventricular septal defect closure using a patch (n = 176), tricuspid valve plastic repair (n = 25), *infundibulum* muscle resection and reconstruction of the right ventricle outflow tract. In

eight patients (G-4), the Lecompte procedure was performed. In seven patients (G-5), the one and a half ventricle technique was employed.

Results. There were 21 hospital deaths (10.3%) . One hundred and eighty two (89.6%) surviving patients were followed from 4 to 206 months (mean=98.0). Sixteen (8.7%) cases were submitted to reoperation for prosthesis dysfunction, with two (12.5%) hospital deaths. One hundred and sixty four (80.7 %) of initial group of patients, are free of reoperation.

Conclusion: The earlier reconstruction of the pulmonary valve and right ventricle outflow tract could be preserving the ventricular performance for a long period. Nevertheless, the porcine pulmonary prosthesis has showed satisfactory results when it was used in different types of right ventricle obstruction.