

MP1-13

Porcine pulmonary prosthesis to repair the dysfunctional right ventricle outflow tract. Does it the same in children than adults? A word of caution.

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Objectives:

Pulmonary valve replacement to repair the dysfunctional right ventricle outflow tract (RVOT) is increasing in childhood to prevent the dysfunction of the right ventricle (RV). The question is whether results are so good in children than in adults. Our goal is to compare the results of the stented pulmonary porcine prosthesis (PPP) in older and younger than 18 years.

Methods:

All patients who received a PPP between 1999-2015 for repair the sequela after primary surgery on the RVOT. Prosthetic dysfunction criteria: surgical/percutaneous reintervention, prosthetic gradient > 50 mmHg or severe prosthetic regurgitation. Statistical analysis with SPSS 20.0.

Results:

102 PPP/101 patients (81/81 > 18; 21/20 < 18). 60% male. Fallot, most common primary disease in both groups. From 24 preoperative variables studied, statistically significant differences occur in 4: last surgery mean age before PPP, $p < 0.001$; NYHA status, $p = 0.005$; QRS time, $p = 0.007$ all of them greater in adults. Surgical indication (pulmonary regurgitation/pulmonary stenosis/double pulmonary lesion), $p = 0.036$, with more pulmonary stenosis in group < 18 years.

Overall hospital mortality: 2.9% (3.7% adults vs 0% children, $p < 0.001$). If PPP is a single procedure mortality is 0%. From 14 perioperative variables, 7 were statistically significant, highlighting cardiopulmonary by-pass (CPB) with peripheral access, $p < 0.001$; associated surgical procedure, $p = 0.02$; CPB time $p = 0.01$; aortic cross-clamp need, $p = 0.043$; intubation time, $p < 0.001$, all variables greater in adult group. Complications in 32% of cases, most often tachyarrhythmia. No significant differences

Mean follow-up time 4 +/- 3.7 years (4.4 adults vs 2.4 children, $p = 0.017$). Only 1 late death in over 18 years group. From 16 postoperative variables, 6 proved statistically significant differences, highlighting systolic / diastolic RV volumes, $p < 0.001$, greater in adults. The need for surgical/percutaneous reintervention, $p = 0.029$ and reoperation for prosthesis dysfunction ($p = 0.001$), in contrast, are higher in < 18.

Conclusions:

The PPP improves the dysfunctional RVOT with low in-hospital and follow-up mortality in both groups of age. PPP dysfunction is greater and earlier in children than in adults, so the procedure must be indicated with caution in young people.