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Aortic and pulmonary valve replacement with the Inspiris Resilia valve in congenital heart disease

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Introduction:

Valve replacement in young adults or pediatric patients is a complex decision and the kind of prosthesis implanted should be carefully selected.

Inspiris Resilia valve (Carpentier-Edwards) is a new bovine bioprosthesis that combines:

- 1) RESILIA tissue, a technology with anti-calcification properties, improved hemodynamic performance and dry storage.
- 2) VFit technology, an expandable frame designed for potential future valve-in-valve procedures.

The objective of our study is to report the results with this valve in patients with congenital heart disease.

Methods:

We performed a retrospective observational study. Demographic, echocardiographic and follow up perioperative and postoperative data was recorded from our hospital database in patients with congenital heart disease that received an Inspiris Resilia valve since December 2017 to November 2018.

Results:

12 Resilia Inspiris bioprosthesis were implanted; 6 (50%) in pulmonary position in patients with a tetralogy of Fallot and severe pulmonary regurgitation and 6 (50%) in aortic position in congenital bicuspid aortic valves. 75% of the patients were male, with a mean age of 37 ± 18 years and 3 patients (25%) were under 18 years old. Valve size was 21 in 3 cases (25%), 23 in 6 patients (50%) and 3 patients received a 25mm valve (25%). There were no mortality and all patients were discharged home without complications. For a mean follow up of 7, 38 months we don't find any clinical complication and all prosthesis remains with a normal function in echocardiogram, with a mean peak across the valve of 23.75 ± 10.70 mmHg.

Conclusions:

In our experience, the implant of Inspiris Resilia valve either in pulmonary or aortic position in patients with congenital heart disease shows excellent short term results, similar to other bioprosthesis. A longer follow up is needed to evaluate mid and long term results, although we consider this valve as a good option in this population not only for the durability but also for a promising future in the valve in valve procedure.