

Tunes from Brazil

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Pulmonary valve is the most commonly replaced valve in patients with congenital heart disease. The management of the right ventricular outflow tract is different in infants, children, and adults, depending on the heart disease being treated and on previous surgical procedures.

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There are several surgical options for valve replacement: homografts, xenografts, mechanical valves, bioprosthetic valves, and prosthetic conduits. This range of materials and technologies has been widely and continuously studied and developed.^{1,2} Unfortunately, all these surgical options are associated with disadvantages.

On the other hand, the implantation of transcatheter pulmonary valve has been developed since the year 2000. There are two currently available devices for percutaneous pulmonary valve implantation: the Melody[®] valve and the Edwards-Sapien[®] valve.

Data from literature^{3,4} demonstrate that transcatheter intervention is associated with excellent immediate results, with significant hemodynamic and clinical improvement. The medium-term results are also encouraging. A current limitation of the applicability of the Melody[®] valve, developed to treat disorders of pulmonary valves in prosthetic conduits, regards conduits with diameter > 22 mm.

When facing new and more challenging scenarios, interventionists have become extremely confident regarding this technology, which has shown to be easy and safe. Some creativity has been demonstrated by interventional teams by implanting the valve in the right ventricular outflow tract, either native or enlarged with patch, in a single branch of the pulmonary artery, or in two branches.

During follow-up, different centers studied the results with dedicated protocols, observing a proper restoration of right ventricular outflow tract function, with low procedure-related complication rates. Moreover, the percutaneous implant of the pulmonary valve increases the conduit lifespan, reducing the number of open-heart surgeries.⁵ The most feared complications are the rupture of the right ventricular outflow tract and coronary compression.

Unfortunately, this technology is still unavailable in some countries, due to difficulties that include financial and political issues, as well as production and distribution of these valves.

A significant step in the right direction is the work by Ribeiro et al.⁶, which describes the initial experience with percutaneous implantation of the Melody[®] valve in Brazil. The authors evaluated patients in a multicenter study, and their results were in line with the international experience. A prosthetic conduit rupture occurred, but it was contained, and there were no other complications. No other adverse effects were observed during the mean four-month follow-up.

The Brazilian experience, therefore, is more than welcome: new tunes are coming to Brazilian hearts!

CONFLICTS OF INTEREST

Mario Carminati is a Medtronic proctor (United States). Luciane Piazza and Gianfranco Butera declare no conflicts of interest.

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