

**Percutaneous Transhepatic Valvuloplasty of a Trimmed Melody Valved Stent in Mitral Position in a 2-Year-Old Infant**

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**INTRODUCTION**

This report describes the first case in our knowledge of a patient with a Melody valve implanted in mitral position in which a posterior valvuloplasty was performed by transhepatic and transeptal approach.

**CASE REPORT**

Male infant antenatally diagnosed with critical aortic stenosis. After three different surgeries including a Ross operation, a mitral valve repair and a mitral valve replacement with a mechanical prosthesis, he underwent a Melody valve implantation in mitral position at the age of 6 months. During follow up, the patient developed severe stenosis of the Melody valve with a mean gradient of 10 mmHg. Therefore a percutaneous balloon valvuloplasty of the prosthesis was performed at the age of 2 years and 9 months (weight 10.5 kg). Due to a previous complete thrombosis of both venous femoral systems and the presence of an intact interatrial septum a transhepatic procedure with transeptal puncture was chosen as a feasible approach for this patient.

The valvuloplasty on the Melody prosthesis was performed using a 18 and 20 mm balloons, resulting in a significant decrease in the mean gradient of the valve. Hemostasis of the transhepatic access was achieved by embolizing the tract with a 6 mm Amplatzer Vascular Plug IV (SJM) and manual external compression of the skin at the puncture site. There were no complications and the patient could be discharged the next day. On the predischARGE echocardiogram, mean gradient across the valve had decreased down to 6 mmHg without an increase in the degree of the valve insufficiency.

**DISCUSSION**

In our patient, in order to avoid a fourth extracorporeal surgery, percutaneous approach was proposed as the technique of choice.

Due to the previous history of this patient, venous femoral accesses were already thrombosed and unable to be used for the procedure. In this situation, transhepatic access is a very useful and feasible alternative.

In our case, the procedure was performed by transhepatic approach and transeptal puncture with no technical complications and good hemodynamic results.