

New hybrid approach for complex re-coarctation involving supra-aortic branch.

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INTRODUCTION: Stent repair of aortic re-coarctation is become a valid alternative to surgical correction. Several anatomical characteristics of the aortic re-coarctation involve the origin of a supra-aortic trunk, composing the clinical situation known as “complex aortic re-coarctation” which may determine challenging situation for percutaneous treatment. We describe a new hybrid approach for treatment of stenosis involving the supra-aortic branch in two cases of complex aortic re-coarctation after previous surgical correction. In both patients the stenosis involved left subclavian artery.

METHODS: A trans-isthmic gradient of 35 and 18 mmHg, was respectively detected in the 2 patients. The hybrid approach was performed within the operating room by a surgical vascular step characterized by a carotid-subclavian bypass in both patients, followed by an interventional concomitant step. The Interventional step was different for the 2 patients:

- A thoracic endoprosthesis GORE C-TAG 21-21-10, was implanted in the 41-year-old female pt, in order to exclude a chronic dissection of the aorta distal to the coarctation site, plus a 39 mm CP bare metal stent dilated with a NuMedInc Balloon-in-Balloon 14x45 mm.

- A covered CP stent 45 mm long dilated with aNuMedInc Balloon-in-Balloon 16x45 mm was implanted in the 15-year-old male patient.

RESULTS: Both intervention had immediate treatment success achieving a final pressure gradient <15 mm Hg. Patients were discharged without post procedure minor and/or major complications.

At 6-month follow-up both patients were asymptomatic with neither diastolic run-off nor carotid-

subclavian bypass significant gradient at transthoracic echocardiogram. **CONCLUSIONS:** Our experience supports the idea that an hybrid approach to complex re-coarctation involving supra-aortic branch is a safety and efficacy technique to treat it.