

PW1-2

Double wire/double balloon/single stent delivery technique broadens interventional possibilities in challenging targets

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BACKGROUND: stent delivery can be difficult-dangerous in stenosis close to a bifurcation (jail-exclude vessels), or when external compression without anatomic stenosis (insufficient anchorage and risk of embolisation).

METHODS: prospective study tertiary interventional centre ; all stenotic targets close to bifurcation where a double wire-double balloon-single stent technique was used.

RESULTS: 6 patients :

A/ Complex coarctation : n = 2 (age 18 & 19y); large left subclavian artery originates just proximal of coarctation; through 14F sheath a 0.035" wire in ascending aorta & left subclavian artery; covered CP stent mounted on 4F & 16-18 mm Z-Med or BIB balloon; stent delivery & flaring with double balloon ; stent expansion with 20 mm Mullins balloon.

B/ Pulmonary artery stenosis just proximal to bifurcation: n = 3 (age 2,3 & 7y); stent Genesis PG1910 over 2 balloons: 7mm Opta +6mmMaverick (0.014" Ironman) through 8F sheath, 7+7 mm Opta's through 10F sheath, 5+7mm Opta's through 10F sheath. The stiff 0.014" Ironman wire gave poor support when compared to the 0.035" wires. After stent deployment, the balloons were advanced halfway out of the stent & reinflated, obtaining maximal flaring of the stent.

C/ Pulmonary vein compression in Fontan candidate (20y); left common pulmonary vein "compressed" down to 3 mm slit-like passage by thoracic aorta and bulging atrial wall; no discrete stenosis by balloon inflation; balloon stretched diameter of 2 lobar veins determined; Genesis PG1920 on 10 & 12 mm balloon over 2*0.035" wire through 12F sheath as distal as possible; opening of stent in "Y" resulted in adequate retention of stent. Enhanced runoff resulted in decreased PVR < Fontanable.

The desired result was obtained in all patients: the obstruction was relieved, all vascular pathways nicely open, good anchorage of the stent.

CONCLUSION: double wire-double balloon-single stent is a very useful technique in challenging targets close to a bifurcation. In order to keep sheath size limited, stent delivery & anchorage is done with double balloon, but stent expansion if needed with subsequent large (high pressure) balloon. Adequate support must be provided by wires: stiffer 0.035" wires are preferred in angulated situations (RVOT, PV).