Images in cardiovascular medicine
Transcatheter balloon recanalization of an occluded modified Blalock-Taussig shunt

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At 20 days of age, a 3.2 kg neonate with tricuspid atresia and a small ventricular septal defect without pulmonary stenosis underwent a palliative insertion of a 3.5 mm right modified Blalock-Taussig shunt (BTM). Three weeks postoperatively, the infant's arterial oxygen saturation dropped significantly. Echocardiography revealed occlusion of the BTM. The child was readmitted to hospital at the age of 60 days and a cardiac catheterization was performed. A selective angiogram of the right subclavian artery showed complete occlusion of the shunt (Fig. 1). An ACS Hi Torque Extra-Sport 0.014" guide wire (ACS Inc., Temecula, CA, USA) was gently advanced along the occluded BTM, and then a 4F multipurpose catheter was positioned in the pulmonary artery trough.

A low profile 5F short taper balloon catheter (Maverick 30 × 20 and Maverick 35 × 20, Boston Scientific Corporation, Natick, MA, USA) was then advanced over the guide wire and inflated several times at a pressure of 10 atm. Each inflation lasted < 10 s. The angiographies performed after the transcatheter procedure showed an unobstructed blood flow across the BTM (Fig. 2). The patient was discharged on therapy with warfarin.

Occlusion or stenosis of a BTM is not infrequent. However transcatheter recanalization is a feasible and satisfactory technique which may permit us to avoid repeat palliative surgery.

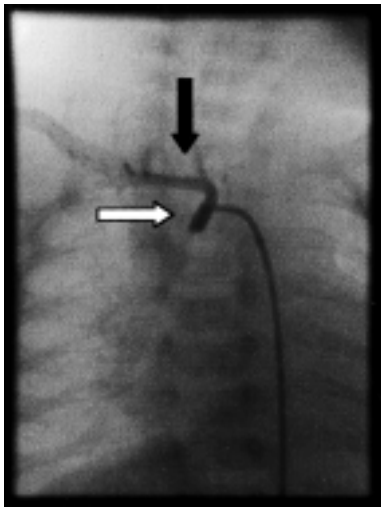

Figure 1. *Injection with a 4F multipurpose catheter in the right modified Blalock-Taussig shunt; the shunt is completely occluded.* Black arrow: *right subclavian artery;* white arrow: *occluded modified Blalock-Taussig shunt.*

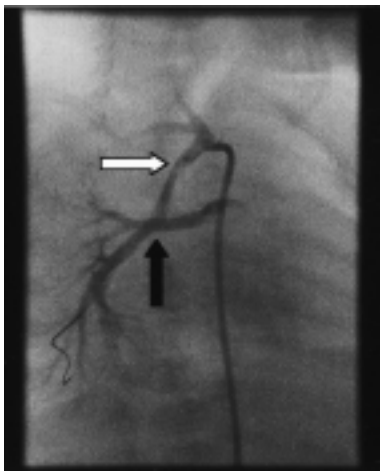

Figure 2. *Post-procedure injection with a 4F multipurpose catheter in the right modified Blalock-Taussig shunt; complete recanalization of the modified Blalock-Taussig shunt* (white arrow)*, with evidence of the right pulmonary artery* (black arrow).