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IMAGES IN CARDIOLOGY

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Stenting of a stenosed modified Blalock–Taussig shunt after Norwood-I palliation for hypoplastic left heart

A male baby underwent stage I of the Norwood palliation on the third day of life. A month later he presented with clinical signs of bronchiolitis and recurrent episodes of desaturations. The modified Blalock–Taussig (BT) shunt was patent on echocardiography. The patient remained on the ward for 2 weeks with saturations varying between 60% and 80%.

On the 47th postoperative day saturations dropped to 40%. The shunt murmur was quieter and echocardiography showed shunt stenosis.

Emergency cardiac catheterisation via the femoral artery confirmed a long stenosis of the shunt, which was more severe at the distal end (panel A). The shunt ostium was entered with a 4F GL catheter, a 0.035 guidewire was forwarded into the left pulmonary artery, then exchanged to a 0.014 Luge wire. The shunt was ballooned with a 5×20 mm Tyshak miniballoon. After initial improvement, saturations dropped back

to 40%. Repeat angiogram still showed distal stenosis. A 4×8 mm Liberté stent was placed into the BT shunt, which moved slightly proximally on withdrawing the balloon. A milder degree of distal stenosis remained (panel B). Saturations improved. Heparin infusion was started.

He remained stable with saturations between 70% and 80% for the next 5 weeks with no further episodes of

desaturation. Medication consisted of low molecular heparin, aspirin, diuretics and ACE inhibitors. He gained weight from 3.96 kg to 4.98 kg. Six weeks after stent implantation, a stage II Norwood procedure was carried out uneventfully.

Stenting of modified BT shunts in hypoplastic left hearts is an option to treat shunt stenosis.

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