

P-319

Blalock-Taussig shunt angioplasty.

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Introduction: Blalock Taussig (BT) shunt occlusion or stenosis is uncommon but potentially life threatening and the current therapeutical options include surgical placement of another shunt or percutaneous angioplasty; only scarce data is currently available. The objective of this study was to evaluate results of BT shunt angioplasty.

Methods: Single centre retrospective study of the total number of patients that underwent catheterization with the intention of BT shunt angioplasty.

Results: Twelve procedures were performed in 11 patients between 1997 and 2011. Six patients were less than 24 months (median [range] 9.1 months [0.2 to 20.3]); the remaining had a median age of 15.7 years [10.2 to 30.1]. One patient was in critical condition before the procedure, the remaining were stable. BT shunts had been implanted in median 21.3 months [0.1 to 156.6] earlier; median diameter of 5 mm [3 to 5]. Five (42%) significant stenosis (with impaired contrast flow) and 7 occlusions (58%) were found. Heparin was administered and arterial approach was used in all patients. Balloon predilation followed by stent implantation (median diameter of 5 mm [4 to 5]) was used in 8 (77%) of procedures; plain balloon angioplasty (POBA) was performed in the remaining 4 cases. Normal contrast flow was obtained in 10 out of 12 shunts (83%). Three patients had a significant complication: one patient who had been operated 48h before the procedure had contrast extravasation (coil occlusion of the shunt was performed with success), another had pulmonary artery stenosis (later successfully managed by kissing-balloon technique) and a third patient died due to acute shunt thrombosis after balloon dilation. At a median follow-up of 60 months [3 to 248]: 7 out of 10 patients maintained shunt patency; one shunt restenosis occurred two years after POBA and underwent successful stent implantation; one stent thrombosis occurred three months after stenting and the patient was referred for new BT shunt surgery; one patient died two years later during the course of unplanned pregnancy.

Conclusions: BT shunt angioplasty is successful in the majority of patients, although complications are not uncommon. It is a valid alternative to reoperation, particularly in higher risk patients.