

Incidence of interventions after Norwood operation: Comparison of Sano and modified Blalock Taussig shunt

*Photiadis J., Fischbach J., Sinzobahamvya N., Schindler E., Schneider M., Hraška V., Asfour B.
German Paediatric Heart Institute,
Asklepios Clinic Sankt Augustin
Sankt Augustin
Germany*

Background: With improved results after the modified Norwood procedure (NP), midterm outcome is mainly determined by interstage hazards leading to mortality, emergent interventions or premature superior cavopulmonary connection. This study compares incidence of interstage cardiac catheter interventions of the Sano and modified Blalock Taussig shunt (BT).

Methods: Incidence, location, interval and weight at interventions of 107 neonates (Sano, n=37 and BT, n=70) undergoing NP within the same interval from October 2002 through December 2009.

Results: 46 (43.0%) subsequently underwent interventions, most commonly for dilatation of the aortic arch (DAA, n=26, 24.3% , Sano n=10, BT n=16, p=0.6), of the shunt (DS, n=15, 14.0%, Sano n=11, BT n=4; p=0.002) or for closure of aortopulmonary collaterals (APC, n=15, 14.0%, Sano n=3, BT n=12; p= 0.08). Mean interval and bodyweight at intervention (DS, DAA, and APC) was 72.4±18.9, 108.5±15.8, 110.7±17.8 days and 4.5±1.3, 4.9±1.9, 5.3±1.2 kg, respectively. Interventions were not related with death, but with increased rate of complications (9/46=21.4%), if compared to diagnostic catheterization (0/45, p=0.03). Complications included closure of femoral or subclavian artery (n=5), cerebral embolic or bleeding events (n=4), cardiopulmonary resuscitation (n=3) and temporary heart block (n=2). Actuarial survival was similar from the 8th postoperative month onwards at 78.6 ± 4.9 % (95% CI, 67.0 - 86.5%) for Sano and 78.4 ± 6.8% (95% CI, 61.4 - 88.6%) for BT: p= 0.95.

Conclusion: Interventions after NP were common, irrespective of shunt type. However a significantly higher rate of shunt interventions was noted in the Sano subgroup. Especially interventions addressing the aortic arch and the Sano shunt were related with significant rate of complications.