

### **Surgical Age and Morbidity after Arterial Switch of Transposition of the Great Arteries**

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Background: Although transposition of the great arteries (TGA) accounts for less than 5 % of congenital heart disease, the clinical course is often dramatic with need for early diagnosis and careful preoperative care as well as advanced surgical correction and postoperative support. Since 1993, Lund is one of the two tertiary referral centers for pediatric cardiac surgery in Sweden, with nearly 400 surgical procedures each year.

Methods: A single-institution 12-year retrospective survey of 127 neonates and infants (median for birth weight, gestational week, and age at surgery: 3.5 kg, 39 weeks, and 4 days, respectively) with TGA corrected via arterial switch operation (ASO). Postoperative morbidity and mortality during the hospital stay were reviewed. Patients with double outlet right ventricle and chromosome abnormalities were excluded. "Major postoperative morbidity" (MPM) was defined as presence of 1 or more of the following: prolonged mechanical ventilation (MV), delayed sternum closure, reoperation, CPAP/NIV after extubation, and ECMO. Patients were grouped based on distance between Lund and referral clinic as follows: "local"- within 200 km radius (n=67), and "external" > 200 km (n=60).

Results: There was only 1 death, born preterm (gestational week 34) with a body weight < 2500 g. Prematurity (<36 weeks of gestation, n=5) was associated with significant increase in postoperative morbidity (p=0.01). Among those born full term, neither early (ie, ≤ 2 days, n=19) nor late (> 7 days, n=25) surgical age had impact on MPM (p> 0.4). Among those without fetal diagnosis of TGA, neither age at surgery (p=0.8) nor MPO (p=0.5) differed between "local" and "external" groups.

Conclusion: ASO can be performed safely in full term neonates and in infants with TGA regardless of surgical age. This finding, along with the similar postoperative outcome regardless the distance between Lund and the referral clinic lend further support to the concept of centralization of pediatric cardiac surgery.