

Early Repair of Tetralogy of Fallot and Postoperative Outcomes

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Introduction: While mounting data indicate a significant risk for postoperative morbidity when surgical repair of Tetralogy of Fallot (TOF) is performed in neonates, there is far less consensus in terms of the optimal timing for repair beyond the neonatal period. Particular concern remains with regard to the postoperative care and the risk for reoperation in patients with repair before the age of 3 months.

Methods: 207 consecutive patients with TOF referred to our institution for non-conduit repair between 1996 and 2013 were reviewed for neonatal, demographic and postoperative data as well as data regarding cardiac reoperation during follow-up. Patients with repair below 3 months of age (Group A) were compared with the remaining cohort (Group B).

Results: Thirty-one patients had repair before the age of 3 months (Group A). There was no mortality in Group A. One patient in Group B died 6 months after repair. There were no differences between the groups with regard to prematurity ($p>0.9$), birth weight ($p>0.5$) and chromosome anomalies ($p>0.9$). BT shunt was used in 1 patient in Group A and in 47 in Group B ($p=0.01$). During repair, transannular patch was used in 17 patients (55%) in Group A and in 93 patients (53%) in Group B ($p>0.9$). Of these, monocusp valve was used in 9 (29%) and 46 (26%) patients, respectively ($p=0.8$). There were no differences between the groups in ventilation time, ICU stay, pleural effusion drainage and hospital stay ($p>0.5$). During the follow-up (median duration 9 ± 8 years in Group A and 11 ± 9 years in Group B; $p=0.1$), 1 patient (3%) in Group A and 32 patients (18%) in Group B required reoperation with pulmonary valve replacement (PVR) ($p=0.07$). Six patients (19%) in Group A and 6 patients (3%) in Group B required reoperation due to RVOT obstruction ($p=0.02$).

Conclusion: The postoperative hospital resource utilization and the risk for later PVR in patients with TOF repair under the age of 3 months are comparable to those in patients with repair beyond this age. Reoperation due to RVOT obstruction appears to be more common in patients with early repair.