

**Dear Surgeon, Have I got it right? Does it matter at all?**

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Introduction: Coronary artery anatomy in simple TGA is well-studied area. It still however, poses a challenge to many Paediatric cardiologists to accurately define and diagnose unusual coronary arrangement preoperatively. Intraoperative findings are gold standard although intramural coronaries can be challenging.

Aims: To study whether accurately defining coronary anatomy preoperatively in simple TGA influence outcome of surgery and to ascertain value of echocardiogram in accurately diagnosing difficult coronary anatomy (intramural coronaries).

Methods: Retrospective analysis of data from 35 patients with simple d-TGA between 2008 and 2011 and comparison of their pre-operative coronary arrangement on echocardiography with intraoperative findings. We then looked at patients with discrepant anatomy and compared them with patients who had consistent anatomy to identify any difference in postoperative outcome until first attendance to clinic post discharge.

Results: Total 35 patients, 19 had discrepant coronary arrangement (54.3%). 25 male infants (71.4%), median weight 3.68 kg $\pm$  0.44 (2.5 to 4.3), median age at surgery 8.5 days (3 to 33), 9 day discrepant vs. 8 consistent). Preoperative status was comparable in both groups, although antenatal diagnosis ratio was reversed (12 discrepant vs. 2 consistent). There was no statistical difference in duration of hospital stay (7 to 34 days discrepant group vs. 7 – 21 days consistent group, p-value 0.36). There was no statistical difference in duration of cardiopulmonary bypass time and cross clamp time (p-values 0.43 and 0.12 respectively). Lactate level on admission to intensive care from theatre was not significantly different (p-value of 0.10). Primary chest closure rates 11 discrepant vs. 10 consistent. The intraoperative and postoperative echocardiograms for cardiac function on both groups were comparable. Two patients in discrepant group had intramural coronaries. One of them required reoperation and extracorporeal life support in first 48 hours post-operatively. Apart from this patient in discrepant group, cardiac assessment with electrocardiogram and echocardiogram at 7 to 10 days post op and during first clinic visit were satisfactory in both groups. There was no significant arrhythmia or mortality.

Conclusion: Defining coronary anatomy preoperatively does not influence outcome in simple TGA however defining intramural coronaries help surgeon to plan their approach pre operatively.