4 TOWARDS FAST TRACKING FOLLOWING PAEDIATRIC CARDIAC SURGERY: STRATEGY AND INITIAL EXPERIENCE WITH EARLY EXTUBATION

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Objective The aim of this study is to report our initial experience with early extubation (<6 hours) following congenital cardiac surgery, assessing its efficacy and safety and the potential for fast tracking through Paediatric Intensive Care Unit (PICU).

Methods Early extubation was defined as intraoperative or within 6 hours from arrival to PICU. Between January 2014 to March 2016, 846 patients underwent congenital cardiac surgery at Alder Hey Children's Hospital with a 30 days mortality rate of 0.9%.The clinical records of 608 patients older than 90 days of age were reviewed. The mean age and weight was 13.1 month (5.6–57) and 8.9 kg (5.8–16.325) respectively. Re-do sternotomies accounted for 181 cases (29.7%). The management strategy involved a specific anaesthetic technique, warm cardiopulmonary bypass, and intraoperative echocardiogram for evaluation of surgical repair.

Results Out of 608 patients, early extubation was accomplished in 480 patients (78.9%) of which 337 pts (55%) were extubated in theatre. There was no mortality or other adverse event related to early extubation. Reintubation was required in 9 patients (1.4%). Patients extubated earlier had shorter PICU stay (1[1–2] vs 3.5 [2–7]days) and shorter hospital stays (5 [4–8] vs 12 [7–20] days). It was noted that PICU stay was artificially longer due to bottle-neck effect along the patient flow.

Conclusion Early extubation can be accomplished safely following cardiac operations in an age-selected paediatric population. It is associated with low morbidity, mortality with reduced PICU and Hospital length of stay. This preliminary study demonstrates that a fast-tracking model is feasible.

5 USE OF PROPRANOLOL FOR INFANTILE HAEMANGIOMAS: MULTI-CENTRE EXPERIENCE OF 70 CASES

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Background Propranolol has been used to treat infantile haemangiomas since 2008. Treatment is recommended in lesions complicated by bleeding, ulceration, infection and where breathing, feeding or vision is compromised. We assessed our experience with reference to the proposed Great Ormond Street protocol (2014) which rationalises pretreatment management/investigations.

Methods Retrospective review of electronic records of all children who receiving propranolol for infantile haemangiomas in 3 hospitals in South Wales between 2009 and 2014.

Results 70 children were treated with propranolol. Median age [range] at start of treatment was 4 months [0-24]. Indications for treatment included ocular impairment (40%), cosmesis (29%), ulceration (21%), airway impairment (6%) and miscellaneous (4%). Median length of treatment was 10 months [1–16]. 88.6% of children improved on treatment and only 5 (7%) experienced regrowth on cessation. 12 patients (17.1)% experienced side effects and 7 (10%) had their treatment discontinued or adjusted. Recorded side effects included sleep disturbance (7%), GI upset (3%) and wheeze (3%). All children were examined by a Paediatrician, Neonatologist or Paediatric Cardiologist prior to treatment initiation. 10 (7%) children were noted to have a murmur. ECG and echocardiography were normal in all but one child who was later found to have an arteriovenous malformation rather than haemangioma, requiring embolisation.

Conclusion None of the investigations including echocardiography and blood tests revealed abnormalities contraindicating the administration of propranolol. The selective use of pretreatment investigations is therefore supported by our data. This review confirms that propranolol is a safe and effective treatment for infantile haemangiomas.

6 INITIAL PALLIATION OF TETRALOGY OF FALLOT: COMPARISON BETWEEN BT SHUNT AND RVOT STENT

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Background Neonatal repair of symptomatic infants with Fallot-type(ToF) lesions remains the exception in the UK. Initial palliation can be achieved by creation of a BT shunt, or RVOT stenting.

Aims To compare the outcome of BTS and RVOT stent in the palliation of TOF.

Methods 10 year retrospective review of the outcome of 101 ToF patients who required initial palliation (RVOT stent n=60; BTS n=41) prior to complete repair. Detailed assessment of PA growth in patients with comparable underlying anatomy.

Results In the RVOT stent group vs the BT shunt group, there was a lower PICU admission rate (22% vs 100%) (p<0.001], a lower early mortality (1.7% vs 4.9%) [ns], a shorter initial hospital stay (7 vs 14 days) (p<0.004), and a shorter time to surgical repair (232 vs 428 days) (p<0.001). In terms of PA growth after palliation, the benefit of RVOT stenting versus mBTS was 0.599 z-score for the LPA and 0.749 z-score for the RPA. Rise in oxygen saturations was greater with RVOT stenting (p=0.012). There were 3 non-cardiac deaths in the RVOT stent group and none in the BTS group. There were no deaths after correction, and comparable bypass times and rate of transannular patching/conduit use. Overall mortality was comparable (8.4% vs 4.9%) (p=0.69).

Conclusions RVOT stenting is a safe and effective palliation in the initial treatment of infants with symptomatic Fallot-type lesions and promotes pulmonary artery growth.

7 EVALUATING THE LONG TERM EFFECTS OF THE FONTAN PROCEDURE ON THE HEPATIC SYSTEM

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A palliative procedure performed in univentricle patients the Fontan is associated with impaired pulmonary function and