

## CO 3

### Effects and risks of beta-blocker in infantile haemangioma: A retrospective analysis

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**Introduction** Infantile haemangioma (IH) is a very common vascular tumour that affects up to 10% of newborns. Since 2008, oral propranolol is used to treat complicated IH, like haemangioma that obstruct vital structures or ulcerated haemangioma.

**Objective** The aim of this study was to investigate, by a retrospective review, the therapeutic results and effects of propranolol on cardiovascular and biological parameters in infants treated for complicated infantile haemangioma and to assess its safety.

**Results** All paediatric patients with complicated IH who started systemic propranolol from February 2009 to December 2014 were included. 218 patients (155 girls and 63 boys) were treated by propranolol. The mean weight was 6780 g (2115 g to 20 000 g). Median age at beginning of treatment was 4.7 months (10 days to 6 years). The most frequent localisation of IH was facial (63 patients), palpebral (52 patients), perineal (20 patients), labial (14 patients), airway obstruction (8 patients) and 1 PHACE syndrome. Median length of therapy was 7.5 months for facial IH, 6 months for palpebral, 5.6 months for perineal IH and 7 months for subglottic localisation. Adverse events were observed: hypoglycaemia (n = 11 patients aged less 6 months), arterial hypotension (n=103 patients, especially at the second and third dose with dose titration), bradycardia (n=120). Transthoracic echocardiography was realised in 158 patients: 19 pathologies was found (8 PDA, 4 ASD, 4 mitral regurgitations, 2 VSD, 1 coarctation). Other adverse events occurred in 49 patients (wheezing, acrocyanosis, diarrhoea, sleep disturbance) leading to modification in management. Complete response was observed for all but 11 (partial or no response).

**Conclusion** In appropriated patients, propranolol therapy is effective for severe or complicated IH. We must be aware of frequent adverse events under beta-blocker in these patients.

**Conflict of interest** The authors have not transmitted any conflicts of interest.

## CO 4

### Mid-term outcome of 120 infants less than one year-old in a French Caribbean cardiac catheter lab: related factors to adverse events and 30-day mortality

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**Background** Cardiac catheterization in infants is associated with Adverse Event (AE) or mortality in Congenital Heart Disease (CHD). AE levels and procedure type risk categories (PTRC) have been defined using the previously reported CHARM study.

**Aim** To investigate factors associated to AE and outcome using PTRC and a new hemodynamic vulnerability index (HVI) in a Caribbean catheter lab.

**Methods** Retrospective longitudinal records from 2007 to 2014 in all consecutive infants <1 year admitted for elective or urgent cardiac procedure

(CP), either diagnostic (CPD) or interventional (CPI). Demographics, CHD's, non – cardiac problems, PTRC, HVI, AE, transfusion, 30-day and mid-term mortality were analysed.

**Results** 120 consecutive infants (age:  $121.3 \pm 91.5$ , median 126, 0-340 days, weight:  $4.54 \pm 1.6$ , median 4.6, 1-9 Kg) were included, with 32% of PTRC  $\geq 3$  ( $p < 0.001$ ), 80 (66%) of CPI (95% of success), and 12.5% of transfusion. Among all CP's, 39 (32 CPI) were urgent or rescue, and 27% had a HVI  $\geq 3$ . Significant AE (level  $\geq 3$ ) were noted in 11 (9,2%) cases (6 of level 5, and 5 strictly related to admission status), with 2 AE requiring surgery. CPI ( $7 < 2.5$  Kg,  $4 < 1.5$  kg) covered almost all types of intervention. One CPI directly related death was noted, but 30 – day mortality was 7.5% and mid-term mortality 15%. Urgent CP had higher PTRC ( $p < 0.001$ ), HVI ( $p < 0.02$ ), and mortality ( $p < 0.001$ ) but lower weight ( $p < 0.02$ ) than elective. Severe AE were associated with urgent or rescue CP ( $p < 0.005$ ), transfusion ( $p = 0.005$ ), 30-day and mortality ( $p < 0.001$ ). Mortality was also linked ( $p < 0.001$ ) with secondary elective surgery, some CPD types (CHARM classification), lower weight (30-day mortality only,  $p = 0.03$ ), and pulmonary valvuloplasty (30 – day mortality only,  $p < 0.001$ ).

**Conclusion** CP <1 year was often urgent and at high risk with a reasonable number of significant AE's and a low CP related death rate. Admission status, 30-day mortality, and weight <2 kg need a careful attention.

**Conflict of interest** The authors have not transmitted any conflicts of interest.

## CO 5

### Impact of loading conditions on ventricular function in Ebstein anomaly (EA) of tricuspid valve

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**Introduction** In EA, both atrialised and functional components of the right ventricle are exposed to high preload and low afterload. The Cone operation enables to eliminate tricuspid regurgitation (TR) and reposition tricuspid valve to its anatomic annulus. The aim of the study was to investigate the adaptation of right (RV) and left ventricles (LV) to change in loading conditions after Cone repair.

**Methods** A retrospective longitudinal study was conducted from 2009 to 2014. All symptomatic patients with moderate to severe TR were included. Transthoracic advanced echocardiography was performed preoperatively, at short-term (less than 30 days after Cone repair) and mid-term ( $17 \pm 11$  months). Conventional parameters, the systolic peak of longitudinal 2D strain and the time to peak systolic Strain were measured for LV and RV. Paired t-test analyses were performed using Wilcoxon Matched-pairs signed rank test.

**Results** From the 38 patients operated for EA, the echocardiographic data of 17 patients could be analysed. GOSH score was significantly reduced after Cone repair ( $1.07 \pm 0.24$  vs.  $0.30 \pm 0.07$ ,  $p = 0.020$ ) as well as TR ( $3.53 \pm 0.24$  vs.  $1.18 \pm 0.37$ ,  $p = 0.003$ ). However, the TAPSE ( $26.42 \pm 5.79$  vs.  $5.78 \pm 2.00$ ,  $p = 0.005$ ), LV and RV systolic peaks were significantly reduced post-operatively ( $-19.80 \pm 1.05$  vs.  $-15.85 \pm 1.13$ ,  $p < 0.001$  for LV,  $-18.50 \pm 1.80$  vs.  $-13.53 \pm 1.52$ ,  $p < 0.001$  for RV), but with no significant reduction between pre-operative and mid-term post-operative period ( $-19.80 \pm 1.05$  vs.  $-21.86 \pm 1.90$ ,  $p = 0.677$  for LV,  $-18.50 \pm 1.80$  vs.  $-18.74.50 \pm 1.80$  vs.  $3.66$ ,  $p = 0.285$  for RV). LV time to peak was significantly reduced in short-term post-operative period ( $441 \pm 9$  vs.  $415 \pm 11$ ,  $p < 0.001$ ).

**Conclusion** The rapid change in loading conditions following Cone operation reduces myocardial contractility of both ventricles but with the trend to later recovery. LV myocardial mechanics appears better than preoperatively.

**Conflict of interest** The authors have no conflict to declare.