

615

## CHANGES IN MYOCARDIAL VELOCITIES AND HAEMODYNAMICS AFTER SURGICAL LIGATION OF THE PATENT DUCTUS ARTERIOSUS IN PRETERM INFANTS

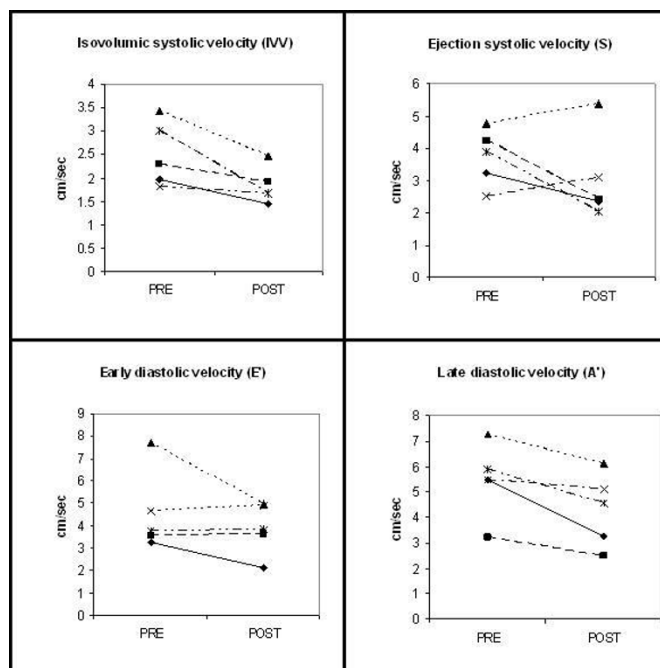
N. Patel

*Neonatal Intensive Care Unit, Royal Hospital for Sick Children, Glasgow, UK*

**Background and aims:** The circulatory effects of surgical ligation of a haemodynamically significant ductus arteriosus (DA) in a preterm infant are poorly understood. This study aimed to measure changes in myocardial velocities, as an assessment of ventricular function, following ligation of the DA, using the new technique of Pulsed wave tissue Doppler imaging (PWTDI).

**Methods:** Echocardiograms were performed within 24 hours before and after DA ligation. Myocardial velocities were measured in the basal left and right ventricles and inter-ventricular septum (RV, LV & IVS). Duct size and flow, left atrium:aortic valve ratio (LA:Ao), and left ventricular output (LVO) were also measured.

**Results:** Data was collected in five infants, median weight 1.4 (range 0.7-2.1) kg, gestation 26.0 (24.4-30.3) weeks, age 25 (22-50) days. Infants were ventilated, none received inotropes. PDA diameter was 0.30 (0.20-0.33) cm, ductal flow was left to right. Following DA ligation, LVO was reduced (mean [SD], 335[118] vs. 258 [63] mL/kg/min). LA:Ao was reduced but remained above normal limits (2.2[0.3] vs.1.9[0.4]). There was a trend of reduced mean LV myocardial velocities after DA ligation, however there was considerable variation between infants (Figure 1).



[Figure 1: Left ventricular myocardial velocities, ]

**Conclusions:** DA ligation acutely reduces LVO, altering loading conditions in the left heart. Reduced mean myocardial velocities in the LV may represent a reduction in both systolic and diastolic function after DA ligation. Individual variation in myocardial response may explain why some, but not all, infants experience cardio-respiratory instability after DA ligation.

616

## TAKO-TSUBO CARDIOMYOPATHY IN TEENAGERS

G. Senatorova, I. Stenkova, N. Makieieva

*Pediatrics and Neonatology, Kharkiv National Medical University, Kharkiv, Ukraine*

**Background:** Tako-Tsubo cardiomyopathy (also called transient left ventricular apical ballooning or “broken heart” syndrome) is transient myocardial pathology, which mimics acute coronary syndrome, acute myocardial infarction with the ST-segment elevation on electrocardiogram without the coronary arteries damage. In Japanese, “tako-tsubo” means “fishing pot for trapping octopus,” because the left ventricle of the patient with this condition resembles it. As there are only few descriptions of current syndrome we decided to report of our study.

**Methods and results:** 3 teenagers complaining of acute chest pain, palpitation, dyspnea, suddenly arising up after acute emotional and physiological