

NORMATIVE VALUES FOR TISSUE DOPPLER IMAGING (TDI) VELOCITIES IN PRETERM INFANTS

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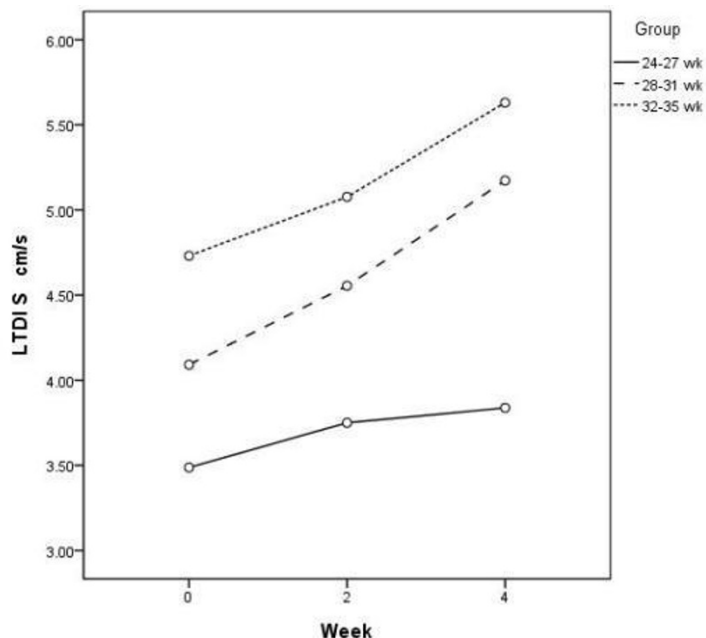
Background: Tissue Doppler imaging (TDI) is potentially useful measure of myocardial function in newborn infants but little is known about normal values at various gestations.

Aim: We evaluated myocardial contractility by TDI at birth and different postnatal ages, in preterm infants.

Method: Preterm infants < 35 weeks of gestation were divided into group-1 (24-27 weeks gestation), group-2 (28-31 weeks gestation) and group-3 (32-35 weeks gestation). All infants with severe congenital malformations and intercurrent illnesses were excluded. Echocardiograms were performed by a single observer at < 48 hours, week 2 and week 4 of life. The statistical procedure used was repeated-measures ANOVA.

Results: There was a gradual increase in left ventricular TDI velocity in systole (LTDI S) over 4 weeks, 12% in group-1, 26% in group-2 and 31% in group-3. LTDI S increased with increasing gestational age with a significant difference between group 1 and 3 ($p = .005$) but not between group 1 and 2 or between 2 and 3. We observed a significant between-subjects effect of different gestational age groups ($p = .007$) and a significant within subject effect ($p < .001$) as postnatal age increases.

Conclusions: LTDI S is higher in less preterm infants and increases over time in all preterm infants. However extremely preterm infants have a lesser increase than more mature infants.



[neo heart]