

## MYOCARDIAL CONTRACTILITY BY TISSUE DOPPLER IMAGING (TDI) IN HEALTHY TERM VERSUS SICK TERM NEONATES

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**Background:** Tissue Doppler echocardiography assesses the long axis function of both ventricles which is difficult to evaluate by conventional echocardiography. This is readily available and can be used as a bedside tool to evaluate myocardial function.

**Aim:** We compared the myocardial contractility by TDI in sick ventilated term infants with healthy term infants within first 48 hours of life.

**Design:** Term infants >38 weeks of gestation were divided into two groups (healthy and sick ventilated). Term ventilated infants were further divided into two groups (pulmonary hypertension and non pulmonary hypertension). Echocardiograms were performed within first 48 hours of life by a single observer. The systolic and diastolic contractility was assessed in both left and right ventricles. Infants with congenital malformations were excluded. Data was analysed by using independent t-test.

**Results:** 62 babies were recruited and data was analysed from 57 infants. 42 were healthy term infants and 15 were sick ventilated term infants. Myocardial contractility was significantly higher in term well vs term ventilated infants for left ventricle in systole (5.52 cm/s vs 4.52cm/s) and diastole (5.36 cm/s vs 4.52 cm/s), right ventricle in systole (7.01cm/s vs 5.98 cm/s) and diastole (7.73cm/s vs 5.85cm/s). The infants with sepsis have significantly higher right ventricular velocities than pulmonary hypertension group (6.3cm/s vs 5.6cm/s). (p value < .05 for all readings)

**Conclusion:** We established normative values for myocardial contractility in term infants. Sick babies with pulmonary hypertension have worse right ventricular function than non pulmonary hypertension and healthy babies.