

## **Abstract**

### **Fetal Acoustic Stimulation Test for Early Intrapartum Fetal Monitoring**

**Rationale** : The Fetal Acoustic Stimulation Test (FAST) has been shown to be a cost effective screening test for antenatal fetal monitoring.

**Objective** : To evaluate the FAST in early intrapartum fetal monitoring.

**Design and Setting** : Prospective interventional study carried out at the Teaching Hospital Galle and Castle Street Hospital for Women Colombo

**Method** : Non stress test (NST) followed by a FAST using Corometric model 146 was carried out in 486 subjects with uncomplicated singleton pregnancies and periods of gestation > 32 weeks in early labour. The response to FAST was assessed and compared with the NST. A repeat NST was recorded in the subjects who had an initial non reactive NST. The results of the NST and FAST were compared with fetal outcome.

**Outcome measures** : Maternal perception of fetal movements after FAST, results of NST before and after FAST, presence or the absence of meconium at delivery and the baby's 5 minutes APGAR score.

**Results** : Out of 486 mothers 413 (85%) noticed fetal movements after FAST. Initial NST was non reactive in 203 (42%) of which 149 (73%) became reactive after FAST. Compared to the NST, FAST had a better Sensitivity (97% vs 62% ,  $p = <0.001$ ), Specificity(100% vs 87%,  $p = 0.017$ ), Positive Predictive Value (100% vs 98%,  $p = 0.024$ ), Negative Predictive Value (79% vs 17%,  $p = <0.001$ ) and the Accuracy (99%vs 64%,  $p = <0.001$ ) in predicting 5 minute APGAR <7 in the baby.

**Conclusion** : The FAST is a reliable test for intrapartum fetal monitoring and is better than the NST alone.

