A comparison of amniotic fluid index versus deepest vertical pocket measurement at term as a predictor of adverse perinatal outcome.

Gunasingha H1, Mendis S1, Samarakkody S1, Hemapriya S1
1Teaching Hospital, Kandy, Sri Lanka

INTRODUCTION

- Fetal surveillance with prompt and timely interventions is crucial in averting adverse pregnancy outcomes. Amniotic fluid volume (AFV) is a useful tool in that regard which is assessed most commonly by either Amniotic Fluid Index (AFI) method or Single Deepest Vertical Pocket (SDVP) method.
- The need of data on the best technique to evaluate AFV pertaining to fetal well-being is conspicuous in both local and global context complicated by dissonance among individual practices, preferences, available data and recommendations.

METHODS

- A prospective observational study was conducted in the obstetrics unit of Teaching Hospital Kandy, Sri Lanka for one year duration from May 2017.
- Singleton pregnancies admitted for delivery at gestational age between 37+0 and 40+0 weeks were recruited. Pregnancies complicated with medical disorders or fetal abnormalities were excluded. Sample size was 448.
- AFI ≤5cm and SDVP <2cm were the exposure variables. Several perinatal events were the outcome variables. Calculated likelihood ratios were used to compare the two methods.

RESULTS

- Mean AFI and SDVP values were 11.35cm (SD=5.15) and 4.07cm (SD=1.88) respectively while exhibiting a significant positive correlation with each other (r=0.954: <0.001).
- A significant percentage of participants with low AFI needed labour induction (RR=2.14:95%CI=1.85-2.49). Low AFI was also a risk factor for not having an uneventful labour outcome (RR=2.68:95%CI=1.08-6.642).
- Low SDVP was a significant risk factor for induction of labour (RR=1.83:95%CI=1.43-2.334), deviation from normal vaginal delivery (RR=1.71:95%CI=1.29-2.280), meconium stained liquor (RR=2.67:95%CI=1.34-5.308) and 5-minute APGAR score <7 (RR=17.74: 95% CI=7.96-40.924).

CONCLUSION

- A higher potential is noted in low SDVP than AFI in predicting adverse perinatal outcome.
- A more experimental focus may determine the most predictive cut-off values of SDVP and AFI for each perinatal outcome.
- Feasibility of incorporating prediction of adverse perinatal events using AFI and SDVP values to obstetric management guidelines should be contemplated.