Use of Cerebroplacental Ratio in Management of High Risk Pregnancies

J Sivanathan, H Omar

Obstetrics and Gynaecology Department, Hospital Shah Alam

ABSTRACT

Objectives: Cerebroplacental ratio (CPR) is emerging as an important predictor of adverse pregnancy outcome. This assessment tool is not routinely used and is mainly performed by fetomaternal specialists. In the management of high risk pregnancies, decision for delivery is compounded by maternal and foetal indications. At times, adverse perinatal outcomes such as stillbirth occur despite close monitoring of the pregnancy. In order to avoid such incidents, iatrogenic premature delivery is carried out. This may result in untoward morbidity due to prematurity, and occasionally mortality. The application of the CPR tool can assist in predicting foetal well-being in terms of hypoxia and cerebral redistribution aiding in decision to deliver. **Methods:** For the past 6 months, our unit has applied the CPR in the management of high risk pregnancies. Cases such as severe preeclampsia, insulin dependent diabetes mellitus, intrauterine growth restriction, oligohydramnios and reduced foetal movements were subjected to Doppler assessments of the umbilical artery, middle cerebral artery, ductus venousus, umbilical vein and uterine artery. Only 1 clinician was involved in the usage of this tool. A CPR calculator which is available online was utilised (Fetal Medicine Barcelona). **Results:** Usage of the CPR enabled prolongation of gestation of these high risk pregnancies by a few weeks, which would likely have been subjected to earlier delivery by the general obstetricians. Examples of cases managed will be presented. As this is a secondary hospital, high risk cases are not as many as in a tertiary centre. **Conclusion:** The CPR is a useful tool in managing high risk pregnancies. It helps prevent inadvertent premature deliveries, thereby reducing adverse neonatal outcomes.

Blood Loss in Caesarean Section in Hospital Universiti Sains Malaysia (HUSM): Estimation by Surgeons and Anaethetists in comparison with Quantitative Measurement and Blood Parameters Assessments

Dr Nazhan Afeef Mohd. Ariff, Assoc Prof Dr Saedah Ali, Dr Laila Ab Mukmin

Department of Anaesthesiology and Intensive Care, Universiti SainsMalaysia, 16150 Kubang Kerian, Kelantan, Malaysia

ABSTRACT

Background: We compared the visual estimation of blood loss for Caesarean section (CS) by surgeons and anaesthetists and their accuracy with relation to years of experience against quantitative measurement. Haemoglobin (Hb) trend after CS were studied. **Methods:** 134 patients who underwent CS were included. Visual estimations were collected from surgeons and anaesthetists. The blood volume in collection bottle and disposable items were quantified. Hb levels pre-CS followed by 1 hour and 24 hours post CS were taken. Data were tested by Reliability Testing, Independent T-Test, Pearson's Correlation and Multiple Linear Regressions where $P < 0.05$ in considered significant. **Results:** There were strong correlations between surgeons' and anaesthetists' estimation of blood loss and quantitative measurement with Intraclass Correlation Coefficient of $r = 0.828$ and $r = 0.805$, $P < 0.001$. Surgeons' accuracy in estimating blood loss has no significant difference in less and equal to 5 experience years against more than 6 experience years group, $P = 0.053$. Anaesthetists' accuracy in estimating blood loss has significant difference in less and equal to 5 experience years against more than 6 experience years group, $P = 0.038$. There was moderate negative correlation in between percentage blood loss and Delta Hb 1 hour post CS, $P < 0.001$. Percentage blood loss, intraoperative fluid administration and patient previous scars were strong predictors for Delta Hb 1 hour post CS with $P < 0.05$. **Conclusions:** Estimation blood loss for CS by surgeons and anaesthetists in HUSM correlates with quantitative measurement. Drop in Hb post CS correlates with percentage blood loss. Prediction of Delta Hb 1 hour and 24 hours post CS can be a useful tool in helping doctors in managing patient.

KEY WORDS:
Caesarean section, surgeons' estimation, anaesthetists' estimation, Delta Hb post 1 hour CS, Percentage blood loss