

DOPPLER FLOW AND FETAL OUTCOME IN PREGNANCIES COMPLICATED WITH HYPERTENSION

ABSTRACT

Hypertension in pregnancy is one of the most common medical complications occurring in pregnancy and it is associated with increase morbidity and mortality for both mother and infant. The aim of this study was to compare fetal Doppler flow and fetal outcome, in pregnancies complicated with hypertension to normotensive pregnancies.

This was a mixed study involving both retrospective and prospective data collection. This study investigated 289 women with singleton pregnancies, between 18 and 45 years of age. There were 185 normotensive women and 104 hypertensive women. The hypertensive group consisted of 44 women with chronic hypertension and 60 women with gestational hypertension. Among women with gestational hypertension, 15 had preeclampsia and 45 had pregnancy induced hypertension.

Data from the first antenatal visit were retrieved, which included: blood pressure measurements, weight and height. At approximately 28 weeks gestation the women were interviewed to determine their socioeconomic status, obstetric and past medical history. An obstetric ultrasound with umbilical Doppler flow was conducted. Resistive index and systolic/diastolic ratio measurements were retrieved. At birth, the mode of delivery, birth anthropometry, APGAR score, placenta weight, blood loss, were retrieved from the birth records. Infants admitted to the special care nursery were documented.

The data was analyzed using descriptive statistics, which involved mean $\pm$ standard deviation. Student's T test was used to compare means of two groups, while ANOVA (analysis of variance) was used to compare means of more than two groups. Chi-Square test was used to analyze categorical variables. Statistical significance was taken at level $p < 0.05$

This study demonstrated that from the first antenatal visit there was significant difference between the normotensive and hypertensive women. The mean weight of hypertensive women was significantly greater than that of normotensive women ($p=0.0001$). Similar observations were noted for body mass index (BMI) ($p=0.0001$), blood pressure ($p=0.0001$) and the hypertensive women had their first antenatal visit at an earlier gestational age ($p=0.025$). The socioeconomic status among the women was similar ($p=0.1$). Abnormal resistive index of women with preeclampsia was significantly different to normotensive women ($p=0.02$). More hypertensive women delivered by cesarean section ($p=0.0001$) and had greater blood loss. There were more low birth weight infants born to hypertensive women compared to normotensive women ($p=0.02$). There was a positive relationship with infants of low birth weight (1-1.49kg and 1.5-2.5kg) and an abnormal RI ($p=0.014$ and 0.001 respectively). More infants born to hypertensive women were admitted to the special care nursery for respiratory distress and low birth weight.

In conclusion, this study has shown that there were significant differences in the normotensive and hypertensive women in pregnancy in maternal weight, maternal BMI and infant birth weight.