



ROLE OF COLOUR DOPPLER STUDIES IN HIGH RISK PREGNANCY AND THEIR PERINATAL OUTCOME

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ABSTRACT **Objective:** To study Role of colour doppler in high risk pregnancy and their perinatal outcome **Introduction:** A pregnancy at risk needs to be identified at an earlier period to deal with its complications effectively. The growth of Doppler Ultrasonographic technology has provided an opportunity to obtain a qualitative and quantitative evaluation of maternal and fetal circulation using a non-invasive method. Doppler ultrasound provides an effective lead time to correct fetal adverse outcomes to some extent. Measurement of Umbilical artery Doppler indices give information about vascular resistance in placenta. Doppler velocimetry of uterine artery is useful in predicting risk of pre-eclampsia even in early pregnancy. **Material And Methods:** This study was conducted in Department of OBG and Department of radiology at K.D. Medical College, Mathura, Uttar Pradesh. All the patients coming for antenatal visits and delivery during my study period of 1 year, who fit in to my inclusion criteria was included. This study was conducted during the period from september 2022 to October 2023. Inclusion criteria was Pregnancy with anaemia, Pregnancy with hypertention, Pre-eclampsia, pregnancy, Pregnancy with gestational diabetes mellitus, Pregnancy with clinically suspected Intrauterine Growth Restriction, Pregnancy with oligohydrominos, Pregnancy with polyhydrominos. Colour Doppler parameters of following vessels will be recorded by GE-LOGIQ19 with C 1-5MHz probe with insonation angle of 60 degree. Pulsatility index, Resistance index, Systolic-diastolic ratio of:

Middle cerebral artery
Umbilical artery
Bilateral uterine artery
Ductus venosus

- Patients was followed up till delivery.
- Correlation between colour Doppler parameter and perinatal outcome was studied.

Results: The study was carried out with 100 patients. High-risk pregnancy was more common in the age group of 21-25 years. The most common high-risk factor in pregnancy was oligohydramnios which accounted for 30% of cases. Out of 100 high-risk pregnancies, 20 % of cases resulted in intrauterine growth restriction (IUGR). Out of 100 high-risk cases, in 36 cases, umbilical artery findings were abnormal. 3 patients had intrauterine death (IUD) and 27 patients had poor perinatal outcome. Umbilical artery abnormality showed significant sensitivity and negative predictive value for adverse (poor + IUD) perinatal. Correlation was seen between high risk pregnancy and need of emergency caesarean section and induction and associated adverse perinatal outcome in form of low APGAR at birth. **Conclusion:** Combination of different arterial waveform study enhances the diagnostic accuracy in identifying those intrauterine growth restricted fetuses that were at risk.

KEYWORDS :