

## **Prediction of pre-eclampsia and intrauterine growth restriction using Uterine Artery Doppler Ultrasound.**

Alsafi Abdella Bala<sup>1</sup>, Abeer Osman,<sup>2</sup> Mohamed Elfadil Mohamed Gar- Elnabi<sup>1</sup>, Abdelmonem Saeed.<sup>3</sup> Caroline.E.Ayad<sup>2</sup>

### **Abstract:**

Preeclampsia and intrauterine growth restriction is an important cause of maternal and fetal morbidity and mortality.

The aim of this study was to examine the value of one step uterine artery Doppler at first and second trimester of pregnancy in the prediction of pre-eclampsia (PE) and /or intrauterine growth restriction (IUGR).

This cross section hospital based control study conducted at Alamal National Hospital from July 2010 to January 2011. The study included 50 women with singleton pregnancies at 12-24 weeks of gestation who had history of PIH low birth weight fetus and /or unexplained prenatal fetal death in their previous pregnancy. Uterine artery blood flow study, resistance index (RI) and Pulsatility Index (PI) of uterine artery were calculated.

The study shows that 30% of this study population had high (RI) and (PI) with low blood flow. Most of the cases (73%) > 14 weeks of gestation, with average age of 37 years old. PIH were the most frequent risk factor.

Doppler ultrasound provided more accurate prediction when performed in the second trimester than in the first trimester. An increased Resistivity and pulsatility index alone or with notching was the best predictor of pre-eclampsia among high risk patient and it is the most predictive Doppler indices.

***Key wards: Doppler, pre-eclampsia, intrauterine growth restriction***