SOLUBLE FMS LIKE TYROSINE KINASE(sFlt-1)/PLACENTAL GROWTH FACTOR(PlGF) RATIO AS A PREDICTOR OF PREECLAMPSIA

ABSTRACT:

BACKGROUND: Preeclampsia is the most common medical disorder in pregnancy.Most patients often present late in pregnancy.Delivery of placenta is the only effective treatment which puts the preterm fetus at risk. So there is need for early identification of these patients in order to avoid complications.Recently, imbalance between proangiogenic and anti-angiogenic factors has been proposed as the probable pathogenic mechanism involved in preeclampsia. These factors are altered even before patients presents clinically with hypertension and proteinuria hence can be used as early predictive markers of preeclampsia.

AIM : To test Soluble Fms like tyrosine kinase-1(sFlt-1) and Placental Growth Factor(PlGF) levels in patients with preeclampsia and to check the correlation between development of preeclampsia with sFlt-1,PlGF levels and sFlt-1/PlGF ratio.And also to assess correlation between sFlt-1/PlGF ratio and pregnancy outcome.

MATERIALS AND METHODS: This study is a case-cohort study wherein 100 antenatal women between 15-20 weeks of gestation who are at high risk of developing Pre-eclampsia were selected.Relevant investigations done and sFlt-1 and PlGF levels measured for all patients and patients were followed up throughout pregnancy. The patients who developed preeclampsia were the cases and those who remained normotensive were the control.

RESULTS: 20 patients developed preeclampsia.sFlt-1 levels were elevated and PlGF levels were reduced in these patients with preeclampsia. sFlt-1/PlGF ratio was also elevated in patients with preeclampsia. Further these values antedated the clinical symptoms. The sFlt-1/PlGF ratio was also higher in patients who developed complications.The sensitivity, specificity, positive predictive value and negative predictive value of sFlt-1/PlGF ratio were 90%, 92.5%, 75% and 97.4% respectively.

CONCLUSION: sFlt-1, PlGF and sFLT-1/PlGF ratio can be used as reliable early predictive markers of preeclampsia.

KEYWORDS: Preeclampsia, sFlt-1, PlGF, predictive marker, angiogenic