



## ▼ UNDERGRADUATE ABSTRACTS

### **UG -12 : CAN URINARY LEVELS OF NEOPTERIN AND OXIDATIVE STRESS INDEX (OSI) BE USED AS BIOMARKERS TO ASSESS INTRAUTERINE GROWTH RESTRICTION IN PREGNANT WOMEN?**

**Muskan Shyamsundar Agrawal<sup>1</sup>, Maithili Karpaga Selvi. N1, Pallavee. P2, Sathish Babu M1, Sathiya. R1, Niranjan. G1, Sripradha. R1**

*Department of Biochemistry,  
Department of Obstetrics & Gynecology<sup>2</sup>,*

*Mahatma Gandhi Medical College and Research Institute, Puducherry - 607402, India.*

**Background:** Intrauterine growth restriction is a common risk factor for perinatal morbidity and mortality. Early diagnosis of IUGR during the antepartum period is of significance to reduce the incidence of preterm delivery and still birth and would lead to better management of neonatal health. The present study investigated the urinary and blood levels of inflammatory and oxidative stress markers in women with intrauterine growth restriction.

**Methodology:** The study included 23 pregnant women with IUGR and 30 healthy pregnant women. Detailed history, gestational age and demographic data were obtained. Biochemical parameters such as total protein, albumin, urea and creatinine were assessed. Neopterin, total anti-oxidant status (TAS), total oxidant status (TOS) and oxidative stress index (OSI) were estimated in the blood and urine of women with and without IUGR.

**Results:** Urinary TOS ( $20.4 \pm 4.4$ ,  $P < 0.05$ ) and OSI ( $5.4 \pm 1.2$ ,  $P < 0.05$ ) were significantly increased in pregnant women with IUGR. Reduced urinary TAS and increased urinary neopterin levels were found in pregnant women with IUGR, but these results were not statistically significant. Receiver operating curve analysis of urinary oxidative stress index showed reasonable cut off values for the diagnosis of IUGR.

**Conclusion:** Maternal inflammatory response and oxidative stress is positively associated with the development of IUGR in pregnant women. Estimation of these parameters in serum and urine could serve as screening tool for the early prediction and diagnosis of IUGR which will further aid in the better management of neonatal health.