

**S008** Correlations between  $F_2$ -isoprostanes and other biomarkers of oxidative stress: Analytical Aspects  
**Nourooz-Zadeh J.<sup>1</sup> and Ziegler D.<sup>2</sup>**

*Department of Clinical Biochemistry & Health Sciences, Urmia University of Medical Sciences, Urmia, Iran; 2) German Diabetes Centre, Leibniz Institute, Heinrich Heine University, Dusseldorf, Germany*

A major step forward regarding the assessment of oxidative stress came with the discovery of the  $F_2$ -isoprostanes with gas chromatographic-mass spectrometric quantification being the method of choice. The current study was undertaken to explore the relationships between plasma  $F_2$ -isoprostanes and other indices of oxidative stress in diabetic patients (n=185). Total antioxidant capacity (TAC) was assessed by quenching of peroxynitrite (ONOO), superoxide anion ( $O_2^{\cdot-}$ ) hypochlorous acid (HOCl) using Pholasin<sup>®</sup> as a probe. Vitamin C was assayed spectrofluorometrically. Vitamin E was determined by HPLC with fluorometric detection.

Correlations occurred between plasma TAC (ONOO-QPC and  $O_2^{\cdot-}$ -QPC) and vitamins C, vitamin E or  $F_2$ -isoprostanes. Interestingly, associations were also seen between Neurological Impairment Score-Lower Limb and ONOO-QPC or  $O_2^{\cdot-}$ -QPC. These findings suggest that assessment of TAC may prove to be a useful tool in improving our understanding of the pathophysiology of diseases linked to oxidative stress and lead to therapeutic regimes which delay the onsets. This is of interest from a practical point of view since both ONOO-QPC and  $O_2^{\cdot-}$ -QPC are rapid and inexpensive methods compared to the measurement of plasma and/or urinary  $F_2$ -isoprostanes.