D Kutsyk et al., J Metabolic Synd 2016, 5:3(Suppl)
http://dx.doi.org/10.4172/2167-0943.C1.003

Hydrogen sulfide and nitric oxide indicators of oxidative stress and endothelial dysfunction in patients with metabolic syndrome

D Kutsyk and E Sklarova
Danylo Halytsky Lviv Medical University, Ukraine

Introduction: The prevalence of metabolic syndrome (MS) is increasing worldwide. Oxidative stress, systemic inflammation and lipid peroxidation are central features of MS. Hydrogen sulfide (H2S) and nitric oxide (NO) play important role in pathogenesis of inflammation and oxidative stress.

Objective: Aim of this study is to evaluate levels of H2S and NO in patients with MS.

Method: The study included 25 patients with MS defined according to the International Diabetes Federation (IDF) criteria. MS subjects were subdivided into diabetics (three men and 10 women, mean age 64, 8±3.4 years) and pre-diabetics (five men, seven women, mean age 60.2±3.5 years), according to the American Diabetes Association criteria. The control group consisted of 15 healthy subjects (seven men, eight women, mean age 57.3±3.5 years). Except standard physical and laboratory examination, gasotransmitters H2S and NO were measured in blood samples.

Results: We observed that NO level in patients with prediabetes (28.36±0.9 μmol) and diabetes was significantly higher in comparison with normal controls (18.86±0.9 μmol; $p<0.001$). H2S level was found to be higher in diabetics (62.91±1.46 μmol) and pre-diabetics (63.25±1.7 μmol), as compared to control subjects (54.25±1.5 μmol; $p<0.001$).

Conclusions: Increase of H2S and NO in patients with MS confirms that these gasotransmitters are early diagnostic markers of oxidative stress and endothelial dysfunction. This can be the main target for antioxidant treatment in such patients.

darmedter@gmail.com

Notes: