ABSTRACT FORM

On-line abstract submission at www.oxygensociety.org

**MARKERS OF OXIDATIVE STRESS LINKED TO INCREASED RISK OF CARDIOVASCULAR DISEASES IN CHRONIC HEMODIALYSIS PATIENTS.**


Patients with end-stage renal diseases undergoing hemodialysis often develop atherosclerosis and, in addition, more than 50% of these patients die from cardiovascular complications. Increased oxidative stress as induced by hemodialysis per se is thought to be strongly associated with the pathogenesis of vascular injury as well as the progression of atherosclerosis.

In a study conducted on 40 hemodialyzed patients (mean age: 58 years), we have measured as routine assays 6 blood markers of oxidative stress: vitamin C, vitamin E (as vit E/cholesterol ratio), lipid peroxides (Oxystat, Biomedica Gruppe), oxidized lipoproteins (ox-LDL, Medlcida) antibodies against oxidized LDL (Ab-ox-LDL, Biomedica Gruppe) and homocysteine (HPLC procedure). A large number of studies have shown that abnormal values of such markers were closely linked to increased risk of cardiovascular diseases. When compared to references values (control group consisted of 123 healthy individuals, mean age: 50 years), we found that 11/40 patients (27.5%) presented vitamin C values below 4 μg/mL. 17/40 patients (42.5%) had levels in oxidized LDL higher than 170 UI/L, and that more 80% of patients exhibited plasma concentrations in homocysteine higher than 20 μmol/L. Only 3/40 patients (7.5%) presented low levels in vitamin E. Less than 2% of patients presented elevated concentration in lipid peroxides and in faters of Ab-ox-LDL.

In conclusion, a regular monitoring in most of these parameters could therefore help the medical staff to regulate the imbalance in pro-oxidant and antioxidant species in order to prevent cardiovascular complications in hemodialyzed patients.

**SUBJECT AREAS FOR ABSTRACTS**

(Must circle to pick area to be accepted)

1. Free radical chemistry
2. Metals, metalloproteins and redox reactions
3. Sources of reactive species
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6. Signal transduction and gene expression
7a. Nitric Oxide: Physiology/Medicine
7b. Nitric Oxide: Chemistry/Biochemistry
8. Oxidation of macromolecules - DNA, lipid, protein, carbohydrate
9. Tissue/cell targets and reactions
10. Cell cycle and apoptosis
11. Clinical topics
12. Environmental oxidants
13. Photobiology
14. Techniques in free radical biology
15. Radiation
16. Neuroscience
17. Cancer
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19. Emerging Fields

The first author is a member of:

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