Nutraceuticals in balancing redox status in ageing and age-related diseases

WGs Meeting of the NutRedOx COST Action CA16112

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Book of Abstracts

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The word of welcome

Dear colleagues,

We would like to welcome you to the 3rd Group meeting within the NutRedOx CA16112 COST Action, which is entitled: “Nutraceuticals in balancing redox status in ageing and age-related diseases”. We hope that this gathering will enable us to shed more light on the healing nature of proper nutrition. Since ancient times, food was regarded as something more than a fuel for survival. The Greek doctor Hippocrates once said: “Let food be thy medicine and medicine be thy food.” Nutraceuticals or “nutritional medicines” could be the answer to difficulties encountered during aging, without neglect of official medications. In a society living longer than ever, health has become one of the most valuable assets. It would be comforting to know that in the near future old age is not associated with deteriorating quality of life.

This COST action was initiated in 2017, as a consortium of countries and scientists whose primary goal was to “focus on the impact of redox active compounds in food on healthy ageing, chemoprevention and redox control in the context of major age-related diseases”. By now, 34 COST participating countries and 6 Near Neighborhood Countries took part in this project, showing that there is great interest in this problem.

We are pleased that you have decided to take part in this mutual conversation, where many will present their recent work, through poster sessions, oral communications or simply by asking questions. One of the goals of this action is cooperation between laboratories by short term scientific missions, so we look forward hearing the results of these encounters. Although we are approaching the end of this joint venture, it is satisfying to know that participants are not yet tired, which is supported by the number of registrations and abstracts that will be presented. On this meeting 67 participants from 24 countries will take part.

Belgrade, an old city which is always young, embraced by two rivers, will be your host. We hope that you will enjoy its rugged charm and warm hospitality, its streets, restaurants and cultural heritage.

At the confluence of new ideas and experiences we again wish you a warm welcome.

Your Local Organizing Committee

O7. MAY THIRTEEN WEEKS OF OCTACOSANOL SUPPLEMENTATION AFFECT PROOXIDANT-ANTIOXIDANT BALANCE IN PATIENTS ON ATORVASTATIN THERAPY

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Statins reduce the risk of cardiovascular disease mainly due to cholesterol reduction, but also pleiotropic effects are present. Co-administration of statins with bioactive molecules may obtain a synergistic benefit. The aim of this randomized, placebo-controlled, double-blind study was to investigate whether 13-week long supplementation of policosanol affected antioxidant status and markers of oxidative stress in patients on atorvastatin therapy. Eighty-seven patients aged 40–80 years on chronic (>4 months) atorvastatin therapy (20 mg) were randomly allocated to policosanol (n=42) or placebo (n=45). At baseline, after 8 and 13 weeks, markers of oxidative stress and antioxidant defence include total antioxidant status (TAS), total oxidant status (TOS), advanced oxidation protein products (AOPP) and activity of superoxide dismutase (SOD) were measured. Creatinine phosphokinase and hepatic enzymes were the main safety endpoints. The mean age of the patients was 62.6 ± 0.8 years. Patients in supplemented group had higher TAS and TOS levels 1640 (963–1752) vs 927 (481–1305), [μmol/L], $p < 0.001$ and 18 (13—20) vs 6 (5–11), [μmol/L], $p < 0.001$], respectively, compared to baseline. In placebo group, subjects had also higher TAS and TOS levels after 13-week compared to baseline. SOD and AOPP were not influenced by the intervention. The investigated supplement possessed a good safety profile. Combination of policosanol with atorvastatin may be useful in an attempt to avoid potential adverse effects associated with statins. 13-week supplementation was not sufficient to induce remarkably changes in SOD and AOPP. TAS and TOS were increased in both groups.