OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Nutritional Science & Therapy

July 15-17, 2013 Courtyard by Marriott Philadelphia Downtown, USA

Anti-oxidants & oxidative stress: Where are we?

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Increased reactive oxygen species concentration, produced under several physiological and pathological conditions, can cause a substantial disturbance of pro-oxidant antioxidant balance leading to oxidative stress. Oxidative stress has been incriminated in physiological conditions such as aging, and in several pathological conditions, including cancer, neurodegenerative, cardiovascular, inflammatory diseases, and diabetes. The potential sources contribute to oxidative stress in our bodies involve: food, environment, exercise, and medication. In the diet there are numerous antioxidants which tend to reduce oxidative stress. Recent reports indicate an inverse relationship between the dietary intake of antioxidant-rich foods and the incidence of human disease (Nikkhah E et al, 2009). This is supported by several studies in animal models which documented the antioxidant potential of extracts from several medicinal plant species. Moreover, many antioxidant supplements, embedded into pills, syrup, powder, or creams, are claimed to contain high amounts of vitamins with antioxidant properties and trace elements. In addition, synthetic antioxidants have been widely used in the food industry (Krishnaiah D et al, 2011). On the other hand, recent intervention studies were unable to confirm the expected benefit of supplemental antioxidants; some of these studies even found deleterious effects related in individuals randomized to receive supplemental antioxidants (Preiser J, 2012). Moreover, still there is a question to bring antioxidants into the perspective of new therapeutic strategies.

In this presentation I will give insight into different sources of oxidative stress and overview of the outcomes from several descriptive/ experimental studies regarding dietary antioxidants and the aspiration as therapeutic/ disease-preventive agents.

Biography

Abdelmarouf Hassan Mohieldein is an Associate Professor of Medical Biochemistry & Research Methodology, Department of Medical Laboratories, Qassim University. He was awarded Ph.D degree from Institute of Molecular Medicine, Moscow Medical Academy, Russia. He has got the training in chemical pathology, Newham General Hospital, London, U.K. He is a peer reviewer for several international journals and research funding agencies. He has 22 published papers in refereed journals. He authored the textbook of Medical Biochemistry. He participated in following international conferences (Moscow-Russia 2001, Cannes- France 2002, Brussels- Belgium 2003, Athens-Greece 2006, Nice-France 2009, and Marrakesh-Morocco 2010). He has ongoing funded projects and supervising research students.