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Influence of metal ions, synthetic compounds and phytochemicals on oxidative stress of developing chick embryo

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Oxidative stress is elicited by various influences such as internal and external agents generated due to the synthesis or modification in the presence of either less or more of required nutrients, nutraceuticals and phytochemicals in the body. Every tissue of the body shall be affected by the involvement of oxygenated molecules which may be radicals of different type. The radicals as on now known are produced in electron transport chain, uncontrolled fatty acid metabolism, monooxygenation of various initiation reactions influenced by cyt p450, xanthine and amino acid oxidases, and metal ions such as iron or metal ion oxidoreduction reactions. All these reactions are depending on modification of regular functions of the metabolic system. To study the variation in oxidative stress of different tissues of chick embryo the selected influences are cadmium, acrylamide and *Hybanthus enneaspermus* active principles isolated from leaves using methanol. The methodology used and results observed are given as follows. The results after treatment with metal ions, Pb (lead) and Cd (cadmium) the deleterious effects on tissues were found in liver, kidney and heart, and similar to it the treatment of chick embryo with acrylamide, paracetamol, 3MC and phenobarbitol has shown damage to the said tissues and also induction of lipid peroxidation in them. In addition to this work co-treatment of plant products along with effectors' molecules has showed decrease in lipid peroxidation, protection of tissues from damage and induction of antioxidant enzymes were found in all these tissues. All the results related to this work during development of chick embryo will be presented during conference.

Biography

Thyaga Raju Kedam is chairman of Board of studies of Biotechnology and Coordinator of Pharmacy from the Department of Biochemistry, Sri Venkateswara University, Tirupati, India. He is faculty of Biochemistry since Feb 1982 and professor from 2003 onwards, and as now he has completed more than 32 years of teaching expertise in Biochemistry. He is the recipient of awards of Fellow of Society of Biotechnology, Excellence award from Indian Society of Agriculture Biochemists (2013), National Award for Teaching excellence in Pharmacy from US-Indo Organization (2013), 25th Anniversary Award from The Pennsylvania State University, USA (2013) and also organized International Conference of ISAB (2013), 18th TRENDS of Biochemistry (2011) and University- Industry Workshop (2012). At present he is Academic senate member of Sri Venkateswara University, Tirupati and recipient of UGC One time grant for the production of 19 PhD graduates.

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