



Aging and the Craziest about Using Anti-Oxidants

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Received: July 24, 2018; **Published:** September 17, 2018

The high prevalence of aging and its associated problems like Xerostomia motivated researchers to find natural remedies that might substitute current medical treatments which usually relieve dry mouth temporarily. Curcuminoid (curcumin) as well as flavonol (fisetin) are anti-oxidants and both have the ability to alleviate reactive oxygen species (ROS), which are counted the major cause of aging [1].

Events that cause aging and those which are caused by aging couldn't be separated. Lipid peroxidation is a clear example of this dilemma. A body of evidence shows a positive correlation between concentrations of lipid peroxidation products and the animal age [2,3]. Conversely, the elevations in products of lipid peroxidation that have been observed in aging tissues may be caused by age-related alterations in processes other than lipid peroxidation.

The anti-oxidant activity of any substance is achieved through two axes, either its ability to increase redox buffer or to decrease ROS generation. Therefore, curcumin and fisetin could act as a double face weapons. Under normal conditions phenolic compounds usually do not show harmful pro-oxidant activity because they are rapidly changed to non-radical products by polymerization reactions or enzymatic reduction of the radicals. However, they would exhibit pro-oxidant activity in case of high concentration and visible light irradiation in the presence of oxygen. Accordingly, a large amount of ROS may be induced by curcumin and flavonoids through the generation of superoxide anion radical and products of lipid peroxidation, these compounds were able to induce DNA strand breakage and may be responsible for decreased cell viability [4,5].

Finally, administration of antioxidants should be regulated and controlled to avoid their pro-oxidant action.

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Volume 2 Issue 10 October 2018

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