Effects of olive leaves extract on LDL oxidation induced-CuSO(4) in vitro.

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Abstract
Oxidation of low-density lipoprotein (LDL) has been strongly implicated in the pathogenesis of atherosclerosis. The use of some natural antioxidant and herbal medicine may lead to the inhibition of production of oxidized LDL and may decrease both the development and the progression of atherosclerosis. The aim of this study was to investigate the effects of Olive leaves ethanol extract (OLE) on LDL oxidation induced-CuSO(4) quantitatively in vitro. Low-density lipoprotein was incubated with CuSO(4) and the formation of conjugated dienes and thiobarbituric acid reactive substances (TBARS). Inhibition of this Cu-induced oxidation was studied in the presence of vitamin E and various concentration of OLE. It was demonstrated that OLE reduced the formation of conjugated dienes and TBARS of LDL against oxidation in vitro (p<0.05). The inhibitory effects of the OLE on LDL oxidation were dose-dependent at concentrations ranging from (2 µg/ml) to (200 µg/ml). Moreover, we compared effects of OLE on LDL oxidation with vitamin E as positive control. This study showed that OLE is a source of potent antioxidants and prevented the oxidation of LDL in vitro and it may be suitable for use in food and pharmaceutical applications.

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