

The present finding agrees with a previous report, considering BMI as one of the strongest predictors for circulating levels of Ox-LDL and demonstrating the effect of leptin on the generation of reactive species in the endothelial cells with a consequent LDL oxidation⁽¹³⁾

The mechanisms by which abdominal adiposity per se could induce increased oxidative stress are not clear. The oxidative stress could be induced by low grade of inflammation mainly characterized by high concentration of leptin, interleukin-6 (IL-6) and C-reactive protein⁽¹⁴⁾. Also several authors suggested that low degree of inflammation in obese person is caused by a high secretion of pro-inflammatory cytokines such as TNF- α ⁽¹⁵⁾. This induces the production of IL6 which leads to low grade inflammatory state that leads to excessive production of free radicals and increased lipid peroxidation⁽¹⁶⁾. Estrogen, on the other hand, was considered a powerful antioxidant, which prevents lipid peroxidation and changes in lipid profile, as observed in the pre-menopausal women⁽⁹⁾. In conclusion these findings suggest that, for a given age, WC, BMI and menopausal status need to be considered when predicting abdominal adipose tissue distribution and related health.

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