Group 11 - Inflammation

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The relationships of leptin and adiponectin with myeloperoxidase in coronary artery disease
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Propose: The adipokines, leptin and adiponectin have a permissive role in the pathogenesis of coronary artery disease (CAD). The inflammatory enzyme, myeloperoxidase (MPO) has also a determinant role in the pathogenesis of CAD. The relationships of the adipokines with the inflammatory enzyme need to be resolved in patients with CAD.

Methods: For the case-control study 100 patients with CAD and 100 control subjects were appropriately recruited. The presence of CAD was assigned by angiographic evaluation. Plasma leptin, adiponectin and MPO levels were measured using immunoassay methods. Other conventional cardiovascular risk factors were also determined.

Results: Leptin and MPO levels were significantly increased in CAD patients compared to control subjects (25.37 ± 5.83 ng/ml vs. 3.68 ± 1.95 ng/mL and 52.85 ± 13.20 ng/mL vs. 23.00 ± 3.60 ng/mL, p=0.001, respectively). In contrast, adiponectin was significantly decreased in CAD patients compared to control subjects (5.62 ± 1.15 mg/mL vs. 9.25 ± 1.8, p = 0.001). There was a strong positive association between leptin and MPO levels only in CAD patients (p =.001). There was also a significant inverse association between adiponectin and MPO in CAD patients (p =0.001). The associations were continued after adjustment for other conventional risk factors (p =0.001).

Conclusions: Given the presence of significant associations between leptin and MPO as well as adiponectin and MPO in CAD patients, it may infer that the pathogenesis effects of the adipokines may be, in part, through the affecting of MPO levels.