

# Impacts of Adipocytokines and Obesity-associated Inflammatory Markers on Apolipoprotein A-1 and B in Patients on Statin Therapy

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**Background and aims:** Obesity-induced chronic low-grade inflammation is causally associated with insulin resistance leading to dyslipidaemia, which is a residual risk for coronary artery disease in patients on statin therapy. The aim of this study is to clarify the impacts of adipocytokines and obesity-associated inflammatory markers on apolipoprotein (apo) A1 and B in patients on statin therapy.

**Methods:** In 156 patients on statin therapy (age  $70 \pm 10$  years; 73% men; LDL cholesterol  $93 \pm 22$  mg/dl), serum levels of apoA1 and apoB, high-sensitive C-reactive protein (hs-CRP), interleukin 6 (IL-6) and adipocytokines including adiponectin, leptin and resistin were measured using respective ELISAs.

**Results:** Serum apoA1 levels were significantly correlated with serum adiponectin ( $p < 0.0001$ ) and resistin ( $p < 0.001$ ), but not with leptin. Inflammatory markers, such as hs-CRP ( $p = 0.003$ ) and IL-6 ( $p < 0.0001$ ), showed strong impacts on apoA1 levels. In multivariate logistic analysis, IL-6 ( $p = 0.004$ ) and adiponectin ( $p = 0.02$ ) were significant determinants for apoA1 levels. On the other hand, serum apoB levels were significantly associated with serum leptin ( $p < 0.001$ ), but not with other adipocytokines or inflammatory markers.

**Conclusion:** IL-6 and adiponectin are strong determinants for apoA1 level, and leptin is an important factor for apoB level in patients on statin therapy. ■