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Do Adiponectin Levels Explain the Atherogenic Properties of Hp 2-2 Phenotype in Type 2 Diabetic Patients?

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Objectives:
Haptoglobin (Hb) and adiponectin are antioxidant proteins and independent predictors of atherosclerotic vascular disease in diabetic patients. The link between Hp phenotype and circulating adiponectin levels were examined.

Methods:
Diabetic patients were divided into two groups by Hp phenotype: Hp 2-2 group and non-Hp 2–2 group (Hp2-1 and Hp 1-1). Blood glucose, HbA1C, insulin, lipids, CRP, HOMA-IR, 25OH vitamin D, leptin and adiponectin levels were measured. Pulse wave velocity (PWV) was performed using SphygmoCor (version 7.1, AtCor Medical, Sydney, Australia).

Results:
PWV was significantly higher in patients homozygous for the 2 allele (Hp 2-2) compared to non-Hp 2–2 patients (Hp 1-1 and Hp 1-2), p0.0001. Adiponectin was significantly lower in Hp2-2 patients than in non-Hp 2–2 group (p0.016). Neither leptin nor the leptin adiponectin ratio (LAR) differed significantly between groups.

Conclusions:
PWV was significantly higher and plasma adiponectin levels were significantly lower in diabetic patients homozygous for the 2 allele (Hp 2-2). These differences were detected despite the lack of by-phenotype differences in glycemic control, blood pressure level or presence of cardiovascular risk factor and suggest an active role of adiponectin in the pathophysiology of vascular disease in this population.