G501C polymorphism of the oxidized LDL receptor gene is associated with albuminuria in Chinese essential hypertension patients

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ABSTRACT. Albuminuria is an independent predictor of renal and cardiovascular complications in hypertensive subjects. We previously showed that lectin-like oxidized low-density lipoprotein receptor 1 (OLR-1) polymorphisms at G501C are associated with susceptibility to essential hypertension and serum C-reactive protein levels. We have now investigated a possible association between OLR-1 polymorphisms at G501C, genotyped by PCR-RFLP, and severity of albuminuria in 307 hypertensive Chinese subjects and 225 age- and gender-matched controls. Urine albumin concentration/urine creatinine concentrations (ACR) were measured to evaluate the severity of albuminuria. Hypertensive subjects had a significantly higher frequency of the CC genotype and the C allele of the OLR-1 polymorphism than controls; this was also true for hypertensive subjects with macroalbuminuria and microalbuminuria.
compared to those with normoalbuminuria. The mean ACR levels and mean serum C-reactive protein levels in CC carriers were significantly higher than in GG and GC carriers. There was a significant, positive correlation between serum hs-C-reactive protein levels and ACR levels. We conclude that OLR-1 polymorphisms at G501C affect the severity of albuminuria in essential hypertension patients.

**Key words:** Albuminuria; Polymorphisms; Essential hypertension; Lectin-like oxidized low-density lipoprotein receptor 1