

C-863A (rs1800630), C-857T (rs1799724), C-806T (rs4248158) and G-308A (rs1800629) in TNF $\alpha$  gene promoter were determined by DNA sequencing. Serum TNF $\alpha$  was quantified by enzyme-linked immunosorbent assays. The associations of these SNPs and serum TNF $\alpha$  with AF were investigated separately.

**Results** We did not observe the associations of T-1031C, C-863A, C-857T and C-806T with AF. Patients with AF showed a significantly higher A allele frequency (10.5% vs 6.8%;  $p=0.024$ ) and A carrier genotype frequency (19.3% vs 12.6%;  $p=0.026$ ) for G-308A SNP. Although the G-308A SNP showed a nominal dominant association with AF (OR for the-308A carriers versus-308GG: 1.65; 95% CI 1.06 to 2.56;  $p=0.026$ ), it failed to remain statistically significant after controlling for traditional risk factors. In contrast, serum TNF $\alpha$  levels were significantly associated with AF after adjustment for the covariates (adjusted OR for TNF $\alpha$  levels: 1.14; 95% CI: 1.02 to 1.27,  $p=0.023$ ).

**Conclusions** An inflammatory state marked by serum TNF $\alpha$  elevation is associated with AF itself. TNF $\alpha$  G-308A polymorphism might act as a weak modifier rather than an independent risk factor in AF development.

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### SERUM TNF $\alpha$ LEVELS BUT NOT TNF $\alpha$ GENE PROMOTER POLYMORPHISMS CONFER RISK ASSOCIATION TO ATRIAL FIBRILLATION IN CHINESE HAN POPULATION

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**Background** Recent findings suggest a link between inflammatory processes and the development of atrial fibrillation (AF). Many studies have investigated the role of C-reactive protein (CRP) in AF, but few have concentrated on the role of tumour necrosis factor- $\alpha$  (TNF $\alpha$ ) in its pathogenesis.

**Aims** The aim was to study the possible associations of the SNPs in TNF $\alpha$  gene promoter and serum TNF $\alpha$  with AF in the Chinese Han population, and thus to help establish the relationship between inflammation and AF.

**Methods** A pairwise case control study of 301 non-valvular AF patients and 301 health controls was conducted. Five single nucleotide polymorphisms (SNPs), T-1031C (rs1799964),