

## Cardiovascular News

### Rising post-AMI CRP levels linked to new-onset AF

5 September 2007

*MedWire News:* Systemic inflammation may mediate the link between increased levels of C-reactive protein (CRP) and new-onset atrial fibrillation (AF) in patients with acute myocardial infarction (AMI), Israeli study findings indicate.

Systemic inflammation has, in recent studies, been implicated in the development and maintenance of atrial fibrillation. A robust inflammatory response is also an integral part of the response to tissue injury in AMI, yet there are no data on the possible association between inflammation and AF in AMI patients.

To investigate further, Doron Aronson and colleagues from Technion Medical School in Haifa studied 1209 patients admitted for AMI between 2001 and 2005, using a high-sensitivity assay to measure CRP levels within 12-24 hours of symptom onset. The primary outcome was the development of new-onset AF during the index hospitalization, while the secondary outcome was admission for new-onset AF in the first year after the index event.

In all, 137 (11.3%) of the patients developed AF during hospitalization, while 55 (4.5%) developed AF after hospital discharge but within the first year of follow-up. However, 41 (74.5%) of these patients with later AF also had AF during hospitalization.

CRP levels were significantly higher in patients who developed AF than in those who did not develop AF, at 26.1 mg/l versus 13.3 mg/l. New-onset AF during hospitalization was observed in 6.5% of patients in the first CRP tertile, compared with 10.4% of patients in the second and 17.1% of those in the third tertile.

Multivariate logistic regression analysis that accounted for clinical variables and ejection fraction demonstrated that, in comparison with patients in the first CRP tertile, those in the second and third tertiles were more likely to experience AF, at odds ratios of 1.5 and 2.0, respectively. At 1 year, CRP was still an independent predictor of new-onset AF.

"In the present study, the association between AF and CRP was predominantly due to an increased number of AF events during the first few days after the infarction," the team writes in the *American Journal of Cardiology*.

"The impact of CRP on AF events after hospital discharge may be, at least partly, explained by recurrent AF events due to electrical remodeling and changes in atrial electrophysiologic properties that increase vulnerability to relapse or sustained inflammation-mediated damage to the atrial myocardium."

[\*Am J Cardiol\* 2007; \*\*100\*\*: 753-757](#)

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