Anti-inflammatory effects of angiotensin-converting enzyme inhibitors and angiotensin receptor blockers: potential benefits for the prevention of atrial fibrillation: reply

We thank Drs Liu and Li for their interest in our randomized trial investigating the anti-arrhythmic effect of perindopril and losartan in the setting of lone paroxysmal atrial fibrillation (AF). While agreeing on modification of atrial remodelling as the main underlying mechanism for the beneficial effect of these two drugs, they commented on the potential role of their anti-inflammatory action in AF prevention in this group of patients. We agree that there is substantial evidence supporting an association between systemic inflammation evidenced by elevated high-sensitivity C-reactive protein (hs-CRP) and certain types of AF, although most of the investigators concluded that a cause-effective relationship could not be established. Moreover, accumulating evidence suggests that systemic inflammation may play a role in the process of atrial remodelling in certain types of AF. It is noted that data supporting a correlation between hs-CRP reduction using drugs with anti-inflammatory action and AF prevention are only available in AF with an inflammatory aetiology. In a canine sterile pericarditis model, atorvastatin prevented AF maintenance and attenuated the increase in hs-CRP levels. In dogs subjected to rapid atrial tachypacing, simvastatin suppressed AF promotion but hs-CRP levels were not affected. Human studies demonstrating AF prevention effect with anti-inflammatory compounds unexceptionally enrolled patients with structural heart disease and/or hypertension, which have been shown to affect hs-CRP levels. In an attempt to determine whether hs-CRP levels are related to AF itself or to the co-morbidities, a recent study examined hs-CRP levels in control subjects, patients with lone AF, and subjects with AF and hypertension. It was found that CRP levels in subjects with lone AF were not elevated when compared with the control subjects. In comparison to controls and subjects with lone AF, CRP levels were elevated in subjects with AF and hypertension. Our randomized trial investigated the effect of AF prevention with perindopril and losartan in patients with lone paroxysmal AF. Hypertension was one of the exclusion criteria. The assessment of CRP levels was not incorporated into our study protocol because at the time of enrollment, an association between hs-CRP and AF in non-post-operative patients had not been reported. On the basis of available data, we conclude that the anti-arrhythmic effect of perindopril and losartan observed in our study is less likely attributable to their anti-inflammatory action in the setting of lone paroxysmal AF. Further studies are warranted to provide more insights into this interesting issue.

References