Reviewer's report

Title: Novel Association Patterns of Cardiac Remodeling Markers in Patients with Essential Hypertension and Atrial Fibrillation

Version: 3 Date: 2 September 2011

Reviewer: Martin Donato

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Major Compulsory Revisions
In the present study, Kalogeropoulos et al evaluated the serum level of diferents MMPs and TIMP. The authors showed that lower serum levels of TIMP-1 were associated with increased AF incidence, whereas higher values of MMP-3, MMP-9 and lower values of TIMP-1 were strongly associated with permanent AF. The patients with AF of recent onset has a markedly increase in serum MMP-2, compared to both, control subjects and patients with permanent AF. The authors suggested a new potential role of MMP-2 as an acute reactant that might be linked with atrial dysfunction during the initial stages of AF.

The study is interesting and original, but the authors should clarify some points of the research.

The authors measured the serum levels of MMPs. However, in order to demonstrated a link between MMPs and AF incidence, they must measure MMPs activity (zimography).

On the other hand, atrial fibrillation has been associated with increased oxidative stress, elevated inflammatory status and endothelial dysfunction. The oxidative stress activates the MMP-2. Thus, it would be interesting measured the level of serum oxidative stress (malondialdehyde serum concentration).

Minor Essential Revisions
The authors must improve grammar and spelling.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.