Potential biomarkers for disease activity in Takayasu's arteritis

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To the Editor

Sun et al. recently reported matrix metalloproteinase-9 (MMP-9) and interleukin-6 (IL-6) as potential biomarkers for disease activity in Takayasu's arteritis (TA) in Chinese population [1]. Authors determined serum levels of MMPs (MMP-3 and 9), tissue inhibitor of MMPs (TIMP-1) and IL-6 in subjects with TA and correlated with the disease activity of the disease. In a subgroup of fifteen TA subjects they demonstrated that levels of MMP-9 and IL-6 are able to predict the imaging outcome of the patients with TA, but at the same time failed to notice any significant correlation between the pathological findings and the serum levels of MMP-9 and MMP-3 and IL-6.

While reading this article, we found that the authors missed a few important studies to discuss in context to this particular field, where importance of IL-6 and MMPs-TIMP-1 has been established as potential biomarkers for this disease. Noris et al [2] in Italian population demonstrated a close relation of serum IL-6 with disease activity and suggested that it could contribute to vasculitic lesion in TA and could be relevant in the setting of therapeutic management of TA. In another study from Japan, Matsuyama et al [3] suggested that monitoring of circulating levels of MMP-2 as a helpful marker in diagnosing TA and those of MMP-3 and MMP-9 as disease activity markers might help provide adequate evaluation of treatment and guide therapeutic decision making for individual patients with TA. Our research group in India has also demonstrated importance of different MMPs (MMP-1, MMP-2, MMP-3, MMP-9 and TIMP-1) and their significant correlation with oxidative stress biomarkers (8-isoPGF$_{2\alpha}$ and nitrite levels) in Takayasu's arteritis [4,5].

The etiopathogenesis of Takayasu's arteritis disease remains enigmatic, and various mechanisms such as post-infective, autoimmune, ethnic susceptibility and a genetic predisposition have been postulated [4,6]. As concluding remarks, we want to emphasize the fact that TA has been reported all over the world with a wide variation in its prevalence in different geographical regions. Moreover, it has been reported to cause different aortic lesion at different places in different countries [7]. Comparing and thoroughly analyzing the results from various studies reported worldwide will be of great help to provide a correct direction for future research on TA, as each and every researcher in this particular area is teaming to address the question whether any of these molecules can be used as a marker to monitor the clinical course of the disease or to predict the disease exacerbations.

The authors of this manuscript have certified that they comply with the Principles of Ethical Publishing in the International Journal of Cardiology [8].

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