Letter to the Editor — Editöre Mektup

Discovering an overlooked fact in atrial fibrillation: Iron deficiency

Dear Editor,

We read the article titled "Iron deficiency and hematinic deficiencies in atrial fibrillation: A new insight into comorbidities" in the current issue with great interest and curiosity.[1] First of all, we would like to congratulate the authors on this novel study. They analyzed an unexamined topic in patients with nonvalvular atrial fibrillation (AF). Despite the similar underlying inflammatory mechanisms and close relationship between heart failure (HF) and AF, previous studies were usually only related to iron deficiency (ID) in patients with HF. A review of the literature review indicated that ID has not previously been evaluated in AF patients, regardless of valvular etiology.

After reviewing the article, we would like to ask some questions about the study. First, what was the objective in defining the ferritin level cut-off points at 100 μg/L? A ferritin level of 30 μg/L and a transferrin saturation of 20% are widely accepted cut-off points for ID. Second, were patients treated with ablation in the past excluded? Patients who had undergone ablation therapy might have had a longer AF-free period, which could affect the underlying inflammatory mechanisms in ID. Finally, intravenous ferric carboxymaltose therapy has been considered quite beneficial in HF.[4] Do the authors think that intravenous and/or enteral iron replacement could be beneficial for the symptoms and functional capacity in patients with AF, as in HF?

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Authors' reply

Dear Editor,

First, we thank the authors for their kind and important comments. International Nutritional Anemia Consultative Group indicated that at all ages a serum ferritin level of less than 10-12 μg/L is indicative of iron deficiency (ID).[1] These values have been revised in 2011 and a level of 15 μg/L has been considered as reflective of ID.[2] Currently, the generally accepted serum ferritin cut-off level to diagnose absolute ID is <30 μg/L.[3] As ferritin is an acute phase reactant, and nonspecifically elevated in chronic inflammatory diseases, absolute ID is commonly diagnosed with higher cut-off ferritin values (<100 μg/L) and functional ID is diagnosed with normal serum ferritin (100–300 μg/L) and low transferrin saturation (Tsat) (<20%).[4,5] The diagnosis of ID in previous studies with heart failure, which is associated with a chronic inflammatory status, was based on this later definition.[6] As atrial fibrillation is another cardiac disease with increased systemic and local inflammation,[7,8] we used the same cut-off values for ID in our study.

Systemic inflammation may induce atrial fibrillation through several direct and indirect arrhythmogenic triggers, and development of atrial fibrillation may be considered as a consequence of long-term underlying systemic inflammatory triggers. As we aimed to examine a possible relation between systemic inflammation and ID in atrial fibrillation patients, we did not exclude those with a history for catheter ablation to