Thyroid Disease (TD), Chronic Obstructive Pulmonary Disease (COPD) and Valvular Heart Disease (VHD) as modifiable risk factors of Atrial Fibrillation

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Dear Editor,

The review of modifiable risk factors for Atrial Fibrillation by Shamloo et al. [1] was certainly a good read. Spreading awareness concerning various risk factors from obesity to sleep apnoea consists of an early intervention as it is an important first step towards the prevention of the arrhythmia and its ghastly consequences. In this notion we feel that Thyroid Disease (TD), Chronic Obstructive Pulmonary Disease (COPD) and Valvular Heart Disease (VHD) should have been listed as modifiable risk factors as well. The purpose of our communication is to summarize the evidence supporting their connection to AF and briefly elaborate on preventive measures in this context.

Hyperthyroidism is nowadays considered a well-established causative factor of AF according to a recent review of Reddy et al [2]. Evidence suggests that the prevalence of AF among patients with a history of hyperthyroidism ranges from 16% to 60%. [3] Alerting as it may seem, more than 8% of patients with newly diagnosed hyperthyroidism presented with AF or Atrial Flutter within 30 days after the initial diagnosis as stated by Hollowel et al. [4] Given that the aetiology of hyperthyroidism is vague, it is important for physicians involved in the treatment of TD and AF to be aware of their correlation and of potential relieving interventions.

A growing body of evidence suggests that COPD is an independent risk factor for AF. [5] There

is a notable trend in major population studies such as ARIC and Malmo Preventive Project to correlate pulmonary function indices such as FEV1 with AF development risk. [4] Moreover, it seems that mainstay COPD treatment may also increase AF risk. Existing studies have emphasized on β Agonists [6] and anticholinergics [7]. Hence it appears that not only treating COPD but being cautious on its very treatment is a key step in modifying the risk for the development of AF.

Valvular Heart Disease (VHD) has been identified as one of the major risk factors associated with the risk for atrial fibrillation by different studies [8]. While one could argue that valve disease might not entirely be modifiable, we believe that timely treatment could have a positive impact in the prevention of AF. Treatment options include: 1) medical management with vasodilators, antiarrhythmics, diuretics and nitrates being the mainstay of treatment, 2) valve repair, 3) balloon valve dilatation, and 4) valve replacement. [9]

Atrial fibrillation is a condition that can lead to catastrophic complications and high mortality and morbidity and it is essential for medical professionals to be able to identify and manage the predisposing conditions appropriately in order to prevent it. Being aware of the multiple modifiable risk factors is key and preventive strategies should be developed in the future which would offer risk assessment and preventive guidelines.

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