EDITORIAL

Subclinical thyroid dysfunction and non-valvular atrial fibrillation

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The relationship between thyroid hormones and heart diseases was extensively studied[1]. Subclinical thyroid dysfunction is one of few reversible causes of atrial fibrillation and heart failure; it is very important to diagnose these conditions in order to improve patients' outcome.

The paper published by Gheorghe GS et al. provides important epidemiological data on prevalence of subclinical thyroid dysfunction in Romanian population, with it's specific iodine intake. The authors found a prevalence of subclinical hyperthyroidism of 3.44%, similar with that reported by Collet et al – 4.2%[2]. Prevalence of subclinical hypothyroidism was 2%, lower than 3.8% reported by Aghini-Lombardi et al. in a population with iodine deficiency[3]. This difference is due to the fact that the paper published by Gheorghe GS et al. consider only cases with TSH >6.5 mIU/L, and the Italian study consider cases with TSH >3.7 mIU/L.

Subclinical hyperthyroidism was associated in the literature with a 2-3 fold increase risk of atrial fibrillation in elderly people[4,5]. In a meta-analysis on five prospective cohort studies (7901 euthyroid and 810 subclinical hyperthyroidism participants), the hazard ratio for incident atrial fibrillation was significantly higher in patients with subclinical hyperthyroidism than in euthyroid ones and in those with grade 2 subclinical hyperthyroidism (TSH <0.1 mIU/L) than in those with grade 1 subclinical hyperthyroidism (TSH 0.1-0.44 mIU/L)[2]. Gheorghe GS et al. found a tendency to a higher heart rate in atrial fibrillation patients on maximum beta blockers dose in patients with subclinical hyperthyroidism as compared to euthyroid patients.

In a recently published paper, subclinical hypothyroidism, but not subclinical hyperthyroidism or low-T3 syndrome, was proved to be an independent predictor of adverse cardiovascular outcomes in patients with acute decompensated heart failure[6]. In the paper of Gheorghe GS et al, there were no statistically significant differences in left atrial areas between euthyroid patients and patients with subclinical hyper and hypothyroidism, respectively. In the literature, subclinical hypothyroidism was associated with increased left atrial pressure in AF patients[7].

A large proportion of patients included in the study of Gheorghe GS had heart failure. Subclinical hyperthyroidism was associated in the literature with increased all-cause and cardiovascular mortality; the risk of major cardiovascular events was increased in subclinical hyperthyroidism, driven by heart failure[8].

The paper published by Gheorghe GS et al. has to be continued with larger cardiovascular trials on subclinical thyroid dysfunction in cardiac patients.

Conflict of interest: none declared.

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