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Survey of Thyroid Dysfunction in Patients with Atrial Fibrillation

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Abstract

Introduction: Atrial fibrillation is an arrhythmia that is often associated with organic disease of the heart, but in a significant proportion (10 to 30%) of patients has been found with no previous underlying disease. Hyperthyroidism is one of the most common causes of recurrent atrial fibrillation. In the present study we sought to examine the thyroid disorders in patients with atrial fibrillation.

Methods: 300 patients diagnosed with atrial fibrillation who were hospitalized during 2010 in Taleghani Hospital were enrolled. Transthoracic echocardiography and, if necessary, trans esophageal as well as the evaluation of thyroid hormones include T3RUP, TSH, FT4, FT3 was performed on all patients. Demographic and clinical data for each patient were extracted and collected data were entered into SPSS software and were analyzed using descriptive statistics.

Results: Among the 300 patients studied, 61 cases (20.3%) were admitted for the first time with a diagnosis of atrial fibrillation. 91.4% of cases with this diagnosis had been hospitalized five times or less. The mean ejection fraction of the heart in patients who were hospitalized with a diagnosis of atrial fibrillation was 12.10 ± 45.14 . From the underlying disease, 215 patients (71.66%) with hypertension, 154 patients (51.33%) with valvular heart disease, 76 patients (25.33%) with congestive heart failure, and 161 patients (53.66%) were with ischemic heart disease. 20 cases from 300 patients (6.66%) had thyroid disorders, 16 of whom (80% of thyroid disorders and 5.33% of all cases) with hyperthyroidism and 4 patients (20% of thyroid disorders and 1.33% of all cases) with hypothyroidism who were treated with levothyroxine. Only in 8 patients, specific risk factor for atrial fibrillation was not found. Mean of serum-free Triiodothyronine (FT3) in hospitalized patients, was 0.87 ± 1.25 , mean of FT4 in patients was 2.43 ± 1.95 and the average of T3RUP in patients was 5.31 ± 30.48 . The average value of TSH was 5.40 ± 2.35 .

Conclusions: Thyroid disorders among patients with atrial fibrillation is less than the studies in other parts of the country and many foreign studies however, it is higher compared to the 2010 study of Dr. Rostamzadeh in Urmia. In many cases, thyroid disorders, along with heart disorders such as valvular heart disease or cardiomyopathy have alone led to atrial fibrillation in patients.

Keywords: Atrial fibrillation, thyroid disorders, thyrotoxicosis, hypothyroidism