

Predictors of Atrial Fibrillation Recurrence in Hyperthyroid and Euthyroid Patients

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To the Editor,

I have read with great interest the article entitled "Predictors of Atrial Fibrillation Recurrence in Hyperthyroid and Euthyroid Patients" by Gürdoğan et al.,¹ recently published in *Arquivos Brasileiros de Cardiologia*. The investigators reported that rates of atrial fibrillation (AF) recurrence were similar in hyperthyroid and euthyroid patients and that the duration of AF was the only predictor of AF recurrence in both.

Hyperthyroidism is a well-known risk factor for paroxysmal and permanent AF. Marrakchi et al.² have reported that a low serum thyroid-stimulating hormone (TSH) level is an independent risk factor for AF. All other factors predisposing to AF were mentioned and discussed in that article.

Additionally, Demir et al.³ have found a strong relationship between vitamin D deficiency and nonvalvular AF. Serum vitamin D levels correlated with high sensitive C-reactive protein levels and left atrial diameter, and were significantly associated with AF in Chinese patients with nonvalvular persistent AF.⁴ Hanafy et al.⁵ have revealed the direct electromechanical effects of vitamin D administration on the left atrium and found that vitamin D could effectively prevent and terminate AF.

In the light of this knowledge, Gürdoğan et al.¹ should have reported the vitamin D levels of the patients in their study and discussed the association between the levels of this vitamin and AF recurrence.

Keywords

Atrial Fibrillation; Hyperthyroidism; Euthyroid Sick Syndromes; Thyroid Disease.

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References

1. Gürdoğan M, Ari H, Tenekecioğlu E, Ari S, Bozat T, Koca V, et al. Predictors of atrial fibrillation recurrence in hyperthyroid and euthyroid patients. *Arq Bras Cardiol*. 2016;106(2):84-91.
2. Marrakchi S, Kanoun F, Idriss S, Kammoun I, Kachboura S. Arrhythmia and thyroid dysfunction. *Herz*. 2015;40(Suppl 2):101-9.
3. Demir M, Uyan U, Melek M. The effects of vitamin D deficiency on atrial fibrillation. *Clin Appl Thromb Hemost*. 2014; 20(1): 98-103.
4. Chen WR, Liu ZY, Shi Y, Yin W, Wang H, Sha Y, et al. Relation of low vitamin D to nonvalvular persistent atrial fibrillation in Chinese patients. *Ann Noninvasive Electrocardiol*; 2014;19(2): 166-73.
5. Hanafy DA, Chang SL, Lu YY, Chen YC, Kao YH, Huang JH, et al. Electromechanical effects of 1,25-dihydroxyvitamin D with antiatrial fibrillation activities. *J Cardiovasc Electrophysiol*. 2014;25(3): 317-23.

Reply

We are pleased that Dr. Cerit showed great interest in our article entitled "Predictors of Atrial Fibrillation Recurrence in Hyperthyroid and Euthyroid Patients" published in *Arquivos Brasileiros de Cardiologia*.¹

Recent studies have found that vitamin D deficiency is related to nonvalvular AF.^{2,3} However, the relationship between this deficiency and nonvalvular AF is not dependent on the occurrence of thyroid disorder. In the study published by Demir et al.,² the TSH levels were normal in all AF groups. In addition, thyroid dysfunction was an exclusion criterion in the studies by both Demir et al.² and Chen et al.³ We did not evaluate the vitamin D levels in our study's participants,

which we can add as a limitation of our research. However, the participants in our study did not report any symptom or treatment of vitamin D deficiency. After thyroid surgery, in particular, patients may have vitamin D deficiency and hypothyroidism, but none of the patients in our study had prior thyroid surgery.

Considering the above, large-scale trials are still necessary to evaluate the relationship between vitamin D levels, thyroid function, and AF. We thank Dr. Cerit for this great contribution to our work.

Dr. Hasan ARI

References

1. Gürdoğan M, Ari H, Tenekecioglu E, Ari S, Bozat T, Koca V, et al. Predictors of atrial fibrillation recurrence in hyperthyroid and euthyroid patients. *Arq Bras Cardiol*. 2016; 106(2):84-91.
2. Demir M, Uyan U, Melek M. The effects of vitamin D deficiency on atrial fibrillation. *Clin Appl Thromb Hemost*. 2014;20(1):98-103.
3. Chen WR, Liu ZY, Shi Y, Yin W, Wang H, Sha Y, et al. Relation of low vitamin D to nonvalvular persistent atrial fibrillation in Chinese patients. *Ann Noninvasive Electrocardiol*. 2014;19(2):166-73.