

**Hakan Uçar, Mustafa Gür<sup>1</sup>, Murat Çaylı<sup>2</sup>**  
**Department of Cardiology, Biruni University Hospital;**  
**İstanbul-Turkey**

<sup>1</sup>**Department of Cardiology, Faculty of Medicine, Kars University;**  
**Kars-Turkey**

<sup>2</sup>**Department of Cardiology, Faculty of Medicine, Dicle University;**  
**Diyarbakır-Turkey**

## References

1. Uçar H, Gür M, Börekçi A, Yıldırım A, Baykan AO, Yüksel Kalkan G, et al. Relationship between extent and complexity of coronary artery disease and different left ventricular geometric patterns in patients with coronary artery disease and hypertension. *Anatol J Cardiol* 2015; 15: 789-94. [\[CrossRef\]](#)
2. Dzau VJ. Tissue renin-angiotensin system in myocardial hypertrophy and failure. *Arch Intern Med* 1993; 153: 937-42. [\[CrossRef\]](#)
3. Rizzi E, Ceron CS, Guimaraes DA, Prado CM, Rossi MA, Gerlach RF, et al. Temporal changes in cardiac matrix metalloproteinase activity, oxidative stress, and TGF- $\beta$  in renovascular hypertension induced cardiac hypertrophy. *Exp Mol Pathol* 2013; 94: 1-9. [\[CrossRef\]](#)
4. Kaftan HA, Evrengül H, Tanrıverdi H, Kılıç M. Effect of insulin resistance on left ventricular structural changes in hypertensive patients. *Int Heart Journal* 2006; 47: 391-400. [\[CrossRef\]](#)
5. Heymans S, Hirsch E, Anker SD, Aukrust P, Balligand JL, Cohen-Tervaert JW, et al. Inflammation as a therapeutic target in heart failure? A scientific statement from the Translational Research Committee of the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2009; 11: 119-29. [\[CrossRef\]](#)

**Address for Correspondence:** Dr. Hakan Uçar  
 Biruni Üniversitesi Hastanesi, Kardiyoloji Bölümü,  
 İstanbul-Türkiye  
 Phone: +90 530 524 02 85 E-mail: ucarhakan2005@gmail.com

## Non-thyroidal illness syndrome and erectile function in males undergoing coronary artery bypass graft

To the Editor,

I have read the article entitled "Nebivolol compared with metoprolol for erectile function in males undergoing coronary artery bypass graft" by Aldemir et al. (1) with great interest, which was published in *Anatol J Cardiol* 2015. In their study, the authors reported that nebivolol exerts protective effects on erectile function against the disruptive effects of cardiopulmonary bypass graft (CABG) in patients undergoing CABG.

CABG is often the cause of non-thyroidal illness syndrome (NTIS). NTIS is a state that is characterized by low triiodothyronine (T3) levels and high reverse T3 levels, with normal or low thyroxine levels and normal, low-normal, or low thyroid-stimulating hormone (TSH) levels. NTIS occurs in a significant number

of patients undergoing CABG (2). The low T3 level is associated with higher marker levels of inflammation and increased endothelial dysfunction. In a previous study, it was demonstrated that the treatment of endothelial cells with T3 increased endothelial nitric oxide synthase (ENOS) phosphorylation and activation. ENOS is an important factor in cardiovascular homeostasis and erectile function (3). Moreover, it has been reported that beta blockers, such as propranolol, atenolol, and metoprolol, could reduce total T3 levels (4). Is there any significant difference in NTIS incidence between the two groups? Furthermore, it is well established that hypothyroidism may be associated with a decrease in serum testosterone, DHEA, and DHEA sulfate levels. I believe that patients with hyper- and hypothyroidism should be excluded from the study.

In addition, nitric oxide (NO) has been found to inhibit iodine reuptake and organification in studies (5). The authors stated that there is no significant difference in nitroglycerine use for each group. Hence, because these effects increase with dose and duration, authors should state data regarding the dose and duration of nitroglycerine use as NO donor. Moreover, I believe that these confounding factors can affect the results of this study. To verify the beneficial effects of nebivolol on erectile function in patients undergoing CABG, all factors associated with ENOS activation should be considered.

**Can Ramazan Öncel**  
**Department of Cardiology, Atatürk State Hospital, Antalya-Turkey**

## References

1. Aldemir M, Keleş İ, Karalar M, Tecer E, Adalı F, Pektaş MB, et al. Nebivolol compared with metoprolol for erectile function in males undergoing coronary artery bypass graft. *Anatol J Cardiol* 2015 Feb 11. Epub ahead of print.
2. Caluk S, Caluk J, Osmanovic E. Nonthyroidal illness syndrome in off-pump coronary artery bypass surgery. *Anatol J Cardiol* 2015; 15: 836-42. [\[CrossRef\]](#)
3. Cai Y, Manio MM, Leung G, Xu A, Tang EH, Vanhoutte PM. Thyroid hormone affects both endothelial and vascular smooth muscle cells in rat arteries. *Eur J Pharmacol* 2015;747:18-28.
4. Dong BJ. How medications affect thyroid function. *West J Med* 2000; 172: 102-6. [\[CrossRef\]](#)
5. Bazzara LG, Vélez ML, Costamagna ME, Cabanillas AM, Fozzatti L, Lucero AM, et al. Nitric oxide/cGMP signaling inhibits TSH-stimulated iodide uptake and expression of thyroid peroxidase and thyroglobulin mRNA in FRTL-5 thyroid cells. *Thyroid* 2007; 17: 717-27. [\[CrossRef\]](#)

**Address for Correspondence:** Dr. Can Ramazan Öncel  
 Atatürk Devlet Hastanesi, Kardiyoloji Kliniği  
 Anafartalar Cad., 07040, Antalya-Türkiye  
 Phone: +90 506 371 51 99 E-mail: r\_öncel@hotmail.com

**Accepted Date:** 09.12.2015

©Copyright 2016 by Turkish Society of Cardiology - Available online at [www.anatoljcardiol.com](http://www.anatoljcardiol.com)

DOI:10.14744/AnatolJCardiol.2015.6884

