Reply to the Letter by Cakar M. Regarding “Chicken or Egg” Which One is First? Myocardial Infarction or Low Thyroid Hormones?”

Key words: acute myocardial infarction, low free triiodothyronine level


The Authors Reply We appreciate the letter from Dr. Cakar and his question regarding the relationship between myocardial infarction and low thyroid hormones discussed in our article (1). Thyroid hormones have vast effects on the risk factors of coronary artery disease (CAD), including the metabolism of lipids and homocysteine, vascular reactivity, blood pressure, the endothelial function and so on. Therefore, patients with hypothyroidism are at a high risk for developing CAD (2). Free triiodothyronine (fT3) is the principal bioactive hormone; therefore, a low fT3 state might constitute a model of abnormal thyroid hormone profile acting as a risk factor for CAD in a similar fashion to hypothyroidism. However, in the population of our study, the prevalence of hypertension and hypercholesterolemia was similar between the low fT3 group and the normal fT3 group. Hence, our results do not support the hypothesis that a low fT3 level is a cause of acute myocardial infarction (AMI). One study showed that patients in a CAD group with low fT3 levels had a poor prognosis. However, the author thought the reductions in the fT3 levels in the patients with CAD were a marker of disease rather than elements contributing directly to disease progression (3). Another study found that the fT3 levels rapidly decrease after the onset of chest pain in patients with AMI (4). This evidence supports the hypothesis that a low fT3 state is the result of inflammation, circulatory defects and hypoxia in patients with AMI. In our opinion, the low fT3 levels observed in patients with AMI are the result of myocardial infarction; however, a low fT3 level would accelerate pathological cardiac remodeling and worsen the cardiac function after myocardial infarction, which would lead to adverse cardiac events. Although it is possible to partly answer the question raised by Dr. Cakar, this issue warrants further exploration.

The authors state that they have no Conflict of Interest (COI).

Baowei Zhang1,2, Wenhui Peng2, Guohui Zhang1 and Yawei Xu2

References


1Department of Cardiology, The Affiliated People’s Hospital of Jiangsu University, China and 2Department of Cardiology, Shanghai Tenth People’s Hospital, Tongji University School of Medicine, China

Received for publication November 27, 2012; Accepted for publication November 28, 2012
Correspondence to Dr. Yawei Xu, xywtj@yahoo.com.cn

© 2013 The Japanese Society of Internal Medicine Journal Website: http://www.naika.or.jp/imonline/index.html