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Letter to the Editor

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The importance of coronary angiography for ischemic sign confirmation detected by myocardial perfusion scintigraphy

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To the Editor,

We have read with interest the article titled "Asymmetric dimethylarginine is not a good predictor of ischemia using myocardial perfusion scintigraphy" published in the latest issue of the *Turkish Journal of Medical Science*, by Erkan et al. (1). We would like to point out some issues related to this article.

Erkan et al. (1) reported that high asymmetric dimethylarginine (ADMA) levels are independently associated with ischemia, but the diagnostic accuracy was defined as weak. Several studies have shown that high ADMA levels cause atherosclerosis and play an important role in the pathogenesis of coronary artery disease (CAD). These studies were usually performed with patients with a diagnosis of CAD determined by coronary angiography (CAG) or known CAD (2,3). We believe that detection of ischemia with MPS in the study by Erkan et al., should be confirmed by CAG; moreover, if the ADMA levels were studied on CAG positive patients, that would be a more objective approach. Although MPS is a reliable and noninvasive tool for the diagnosis of CAD, especially when methods such as attenuation correction or prone imaging in MPS are not used, it is known that the false positive rate should be taken into account (4,5). Therefore, clinical use of ADMA levels and MPS provides more meaningful results in predicting CAD, with confirmation of ischemia by CAG.

Finally, the study by Erkan et al. (1) is a preliminary work to show the relationship between myocardial perfusion imaging and ADMA levels. In order to become a more meaningful contribution, we believe that the MPS findings are to be confirmed by CAG in future studies.

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Reply to Letter to the Editor

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To the Editor

Asymmetric dimethylarginine is not a good predictor of ischemia using myocardial perfusion scintigraphy: Response to Korkmaz et al.

Nuclear medicine techniques provide functional imaging, while other radiologic techniques such as intracoronary angiography (ICA) reflect vascular anatomy. Hybrid imaging techniques are currently improving and becoming more important modalities because functional and anatomical imaging have complementary value for each other. The patient who has endothelial dysfunction manifested in positive myocardial perfusion imaging (MPI) but negative ICA actually has adverse cardiovascular outcomes (1). If we accept ICA as the gold standard, we have to evaluate MPI as false positive and we are going to ignore adverse outcomes in this patient. It is well known that there are some other entities manifested with the same results such as microvascular diseases, which are negative on ICA. There is also a fourfold increase in cardiovascular risk for those who have positive MPI but normal ICA (1). It is true that "several studies have shown that high ADMA levels cause atherosclerosis and play an important role in the pathogenesis of coronary artery disease (CAD)", but we reported about detecting functional ischemia at the time of exercise and we think that is a different entity from atherosclerosis.

There are also reasons that cause false negative and positive results in MPI such as balanced multivessel disease (1) and attenuations and other artifacts respectively. Of course, it would be better if all our patients underwent ICA since functional and anatomical images have complementary (but not confirmatory) results on each other. However, it is well known that we are going to be exposed to ethical problems if we perform ICA in normal MPI patients; therefore, it is impossible to perform ICA in all patients.

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