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Author's Reply

To the Editor,

We thank Joob et al. (1) for the letter regarding our paper "Diagnostic accuracy of Doppler ultrasonography for assessment of internal thoracic artery graft patency: An observational study," published in this issue. In our study, we found high sensitivity and specificity rates in assessing the LITA graft patency with Doppler ultrasonography, as confirmed with the standard method (coronary angiography). Despite the non-invasiveness and high accuracy of the method, it is still not the gold standard for the diagnosis of a LITA graft. As we mentioned in our paper, this method may be an intermediate diagnostic tool before conventional angiography that may be reserved for patients in whom LITA flow patterns are abnormal. In the near future, with the aid of advancements in Doppler technology and with a better understanding of flow patterns, this technique may provide a non-invasive surveillance method to assess patients who undergo coronary bypass surgery. Today, it is useful to keep Doppler ultrasonography handy.

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Heart rate variability and Ramadan fasting

To the Editor,

In their article, published in the August 2014 issue of *The Anatolian Journal of Cardiology*, Cansel et al. (1) investigated the effects of Ramadan fasting on heart rate variability (HRV) parameters, as assessed by 24-hour Holter monitoring, and found that some HRV indices during Ramadan fasting, such as mean RR interval, mean 5-min standard deviation of the NN interval (SDNNi), the number of interval differences of successive NN intervals greater than 50 ms, total power, low-frequency power, normalized LF power, high-frequency power, and normalized HF power, increased when compared with their post-Ramadan values. The standard deviation of all NN intervals (SDNN) during Ramadan fasting was found to be unchanged in comparison to its post-Ramadan value.

Ramadan is the holiest month in the Islamic calendar, during which healthy Muslims all over the world abstain from eating, drinking, conjugal relationships, and smoking from dawn until sunset as a sign of restraint and introspection for a period of 29-30 days. Depending on the season and the geographical location of the country, day fasting varies from 11 to 18 h, being longer in the summer and in temperate regions. During the month of Ramadan, there are profound alterations in dietary habits and lifestyle. In addition, physical activity and night sleep usually decrease as a result of the phase shift in food and fluid intake (2).

In the study by Cansel et al. (1), it was surprising to find that body mass index (BMI) values were indifferent during Ramadan when compared with during post-Ramadan in a summer season when Ramadan fasting coincides with longer fasting days. This may be due to the fact that BMI may not be a sufficient tool to detect changes in body composition during Ramadan fasting, which may have a confounding effect on HRV. Perhaps other anthropometric parameters, such as waist circumference-to-hip circumference ratio (WHR), waist circumference-to-height ratio (WHtR), visceral adiposity index (VAI), and body adiposity index (BAI), as well as total calorie intake and energy expenditure, should have been used to detect subtle changes in body composition (3). In addition, the common dietary practice in the Ramadan month is to consume one lighter meal before dawn (Sahour meal) and a larger meal after sunset (İftar meal) (2). Therefore, the timing of BMI measurement is important, which should be 8-9 hours after the last meal (Sahour meal), and it should be standardized in all subjects (3). These data were not mentioned in the study by Cansel et al. (1).

Another interesting finding of the study by Cansel et al. (1) was that SDNN was found to be unchanged in comparison to its post-Ramadan value, while SDNNi was found to be changed compared to its post-Ramadan value. Because both SDNN and SDNNi derive from the same NN intervals (4), how could this be possible? The authors should give more information about this contradictory finding.

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Author's Reply

To the Editor,

We thank you for your comments on our study, published in February 2014 issue of *The Anatolian Journal of Cardiology* (1). In this single-center study, we evaluated the effects of Ramadan fasting on heart rate variability (HRV), which has prognostic significance in patients with heart failure and coronary artery disease.

The first remark was about body mass index (BMI), the method used to evaluate body composition between during and after Ramadan in our study. As the authors mentioned, there are other anthropometric parameters to evaluate body composition, such as waist circumference (WC), waist circumference-to-hip circumference ratio (WHR), waist circumference-to-height ratio (WHtR), visceral adiposity index (VAI), and body adiposity index (BAI). BMI is a fascinating anthropometric index that meets the four requirements for an ideal method, including initial cost, training of the operator, maintenance and operating costs, and precision (2). The two instruments (scale and anthropometer) of BMI are inexpensive and require minimal training to use, and repeat values can be obtained with good precision. It has also been shown to correlate significantly with other measures of adiposity (3). Although some differ-

ences have been described between these anthropometric parameters in the risk stratification of metabolic syndrome and/or obesity in the literature (4, 5), there is no superiority for the detection of body composition among them. For these reasons, we did prefer to use BMI to evaluate body composition in our study. We are also glad to supplement the information that the timing of the BMI measurement was at 12 hours after the Sahour meal was at 12 hours after the Sahour meal in both during and post-Ramadan month. Different results could have been obtained if the measurement of BMI was taken before, during, and after Ramadan, which was a limitation that mentioned in our study.

Another remark was about the SDNNi values. As the authors mentioned, SDNN (during Ramadan 147.3 ± 31.2 , post-Ramadan 139.2 ± 30.3 , $p=0.166$) was found to be unchanged, while SDNNi (during Ramadan 65.8 ± 12.1 , post-Ramadan 60.6 ± 12.7 , $p=0.010$) was found to be changed compared to during and post-Ramadan values in our study (1). Considering these findings, we think that these results were attributed to the small study population. So, large-scale studies are needed to clarify this issue.

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