Importance of coronary steal syndrome in the assessment of internal thoracic artery flow

To the Editor,

We deeply appreciate Yay et al. (1) for this study published in the May 2014 issue of The Anatolian Journal of Cardiology. We would like to mention that we find the idea of various intermittent Doppler assessments of an internal thoracic artery graft (ITA) for patency very genuine. In this context, we would like to emphasize an idea that would probably bring another aspect to the matter. Subclavian steal syndrome arises when there is proximal subclavian arterial stenosis; coronary steal syndrome is also a specific variant of subclavian steal syndrome when ITA is used as a coronary bypass graft (2-4). In this entity, even though there is no anatomical stenosis in the ITA, coronary circulation can be impaired due to decreased antegrade flow within the ITA through coronaries but increased subclavian steal flow to the left arm. In light of this consideration, we would like to ask Yay et al. if they evaluated their patients for possible coronary arterial steal syndrome. In the case of coronary steal syndrome, there is always a chance to miscalculate the ITA stenosis due to decreased flows within the vessel. We would deeply appreciate if the authors could share any useful data with us. This will also contribute to a universal understanding of flow dynamics in this delicate interesting area.

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Author`s Reply

To the Editor,

We appreciate the well-advised comments by Gökalp et al. (1) on 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 (2), we evaluated a left internal thoracic artery (LITA) graft by Doppler ultrasonography. Our results showed that Doppler ultrasonography is useful for assessing the patency of LITA. Another phenomenon that can be diagnosed by Doppler ultrasonography (3) is coronary steal syndrome, in which there will be also an impairment of coronary flow (4) that is not related to the native coronary artery or graft stenosis. In our study, we did not observe any coronary steal syndrome, which can be distinguished as follows: there would be a palpable left radial artery pulse in the physical examination, there would be triphasic physiological arterial blood flow in the subclavian artery proximal to the LITA origin, and no reverse blood flow at the LITA that can be detected easily by Doppler ultrasonography. We think that this systematic approach would be helpful in ruling out coronary steal syndrome.

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Diagnostic accuracy of Doppler ultrasonography for assessment of internal thoracic artery graft patency

To the Editor,

The report "Diagnostic accuracy of color Doppler ultrasonography (CDUSG) for assessment of internal thoracic artery graft patency" is very interesting published in the May 2014 issue of The Anatolian Journal of Cardiology, (1). They noted that "CDUSG is a reliable noninvasive method for assessment of LITA graft patency." It is an acceptable good noninvasive alternative option to postoperative angiography (2). In fact, the use of CDUSG for the assessment is not a new thing. Fukata et al. (3) mentioned that "diagnostic accuracy was improved by measuring the diastolic parameters under continuous infusion of adenosine triphosphate disodium (ATP)." In addition, although it is a noninvasive approach, the final decision to perform graft revision in case there is an observed problem is still not controversial, being based on only CDUSG findings (4).

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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.