Serum nitric oxide level in patients with coronary artery ectasia

To the Editor,

We read the article entitled "Serum nitric oxide levels in patients with coronary artery ectasia" written by Gürlek et al. (1) and published in Anatol J Cardiol 2016;16:947-52 with great interest. Though prevalence of coronary artery ectasia (CAE) has increased with use of advanced imaging techniques in cardiology practice, the main etiological factor and mechanism is still uncertain. While atherosclerosis is the main etiological factor in adults, Kawasaki disease is the most common cause in children and young adults.

Many trials have been performed, both prospectively and retrospectively, to understand the underlying mechanism and related conditions of CAE. Prospective studies are always more valuable and significant. Prospective study is a longitudinal study that follows over time a group of similar individuals who differ with respect to certain factors under study to determine how these factors affect rates of a certain outcome (2). In prospective studies, results are collected at regular time intervals moving forward, so recall error is minimized. In retrospective studies, selection and information bias can negatively impact the veracity of the study (3). In this trial, the authors stated in the methods section that it was designed as a prospective protocol. But in the second paragraph, they explained that they had evaluated the coronary angiograms (CA) and selected patients retrospectively. We think this discrepancy will create questions for readers. If serum nitric oxide (NO) level detection was done long after CA, the results of the study will be affected, since risk factors for coronary artery disease (CAD) such as diabetes mellitus, hypertension, and smoking alone may increase NO levels in CAE patients. In addition, CAE, which is attributed to atherosclerosis in 50% of cases (4), may progress to CAD over time, and CAD can also increase NO level. Follow-up angiograms are needed to demonstrate absence of CAD in both groups, and most particularly in CAE patients. Authors should explain if blood samples were taken just after CA or later. In either case, this trial can be accepted as a cross-sectional study but not a prospective study. A second issue is control group selection. We wonder if they were selected consecutively, like the CAE patients, or randomly assigned. If the authors would share the power analysis status with us it would be valuable and informative for readers.

Meanwhile, we are grateful to the authors. They performed a great study that helps to clarify an uncertain issue.

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