Visit-to-visit variability in low-density lipoprotein cholesterol

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To the Editor,

We read the published article "Visit-to-visit variability in low-density lipoprotein cholesterol is associated with adverse events in non-obstructive coronary artery disease. *Anatol J Cardiol* 2019; 22: 117-24" with great interest (1). Gu et al. (1) concluded that "Among the patients with non-obstructive CAD, a higher visit-to-visit LDL-C variability is associated with increasing all-cause mortality or composite endpoints during the long-term follow-up". We would like to share our ideas on this report. An important consideration is the quality control principle in LDL-C determination in laboratory medicine. For any clinical profile test in laboratory, variability in test results can naturally occur. The clinical laboratory has to control for with-in day and between-day variation, which is related to daily environmental conditions (2). The variation is not related to any pathophysiological process in the patient but to the analytic factors in the laboratory. LDL-C determination by different types of analysis in the same laboratory can simply result in variation of LDL-C results. Thus, Gu et al. (1) have to control for the described factors. LDL-C determination has to be performed using the same technique and analyzer. Different LDL-C assays can have different diagnostic properties and result in possible misinterpretation of results (3).

Nevertheless, with the described control, the between-day variation can still occur.

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