

Analysis of platelet-to-lymphocyte ratio requires methodological consideration

To the Editor,

I read the article by Kundi et al. (1) entitled "Relationship between platelet-to-lymphocyte ratio and the presence and severity of coronary artery ectasia" published in *Anatolian J Cardiol* 2016;16: 857-62. The authors aimed to investigate the relationship between the platelet-to-lymphocyte ratio (PLR) and coronary artery ectasia in the adult population. They found that PLR values in patients with isolated coronary artery ectasia were significantly higher than those in patients with obstructive coronary artery disease and the control group with normal coronary artery angiograms. I have a few comments:

PLR is calculated as the ratio of the platelet to lymphocyte count from the same complete blood count, which is a widely available, automated, inexpensive, and easy-to-do test, and

it can be used as a marker of systemic inflammation in coronary artery disease and cardiovascular events (2). However, the standardized laboratory methods are crucial with regard to PLR analysis. Kundi et al. (1) did not mention from where blood samples were obtained, what kind of sample tubes were used, or when blood samples were analyzed after venipuncture in each patient. First, the platelet count obtained from citrate-anticoagulated blood samples has been reported to be higher than that obtained from EDTA-anticoagulated blood samples (3). Second, EDTA-induced pseudothrombocytopenia due to platelet agglutination because of EDTA-induced alteration of surface glycoproteins and anionic phospholipids is an important issue when using EDTA-anticoagulated samples (4). EDTA-induced pseudothrombocytopenia should be checked by a peripheral blood smear. Because of the factors I have mentioned above, it may be deceptive to make an interpretation based on results of the study by Kundi et al. (1) regarding the relationship between PLR and coronary artery ectasia.

In addition to PLR, the mean platelet volume (MPV) or platelet distribution width (PDW) can be also used as a marker of inflammation, which is obtained from the same blood sample (5). Thus, one can speculate about a relationship among MPV, PDW, and PLR in patients with coronary artery ectasia. Analysis of MPV and PDW also requires methodological consideration, as I have stated previously.

In conclusion, I think that it will be more helpful to design a prospective study considering the methodological details mentioned above to determine the relationship between PLR and coronary artery ectasia.

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References

1. Kundi H, Gök M, Çetin M, Kızıltunç E, Çiçekcioğlu H, Güven Çetin Z, et al. Relationship between platelet-to-lymphocyte ratio and the presence and severity of coronary artery ectasia. *Anatol J Cardiol* 2016; 16: 857-62.
2. Oylumlu M, Yıldız A, Oylumlu M, Yüksel M, Polat N, Bilik MZ, et al. Platelet-to-lymphocyte ratio is a predictor of in-hospital mortality patients with acute coronary syndrome. *Anatol J Cardiol* 2015; 15: 277-83.
3. Işık A, Balçık OS, Akdeniz D, Cıvil H, Uysal S, Koşar A. Relationship between some clinical situations, autoantibodies, and pseudothrombocytopenia. *Clin Appl Thromb Hemost* 2012; 18: 645-9.
4. Shabnam I, D S C, B C J. Ethylenediaminetetraacetic Acid (EDTA) - dependent pseudothrombocytopenia: a case report. *J Clin Diagn Res* 2014; 8: FLO3-4.
5. Seyyed-Mohammadzad MH, Eskandari R, Rezaei Y, Khademvatani K, Mehrpooya M, Rostamzadeh A, et al. Prognostic value of mean platelet volume in patients undergoing elective percutaneous coronary intervention. *Anatol J Cardiol* 2015; 15: 25-30.

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