

# Increased red cell distribution width in patients with slow coronary flow

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Dear Editor,

We read the article "Increased red cell distribution width (RDW) in patients with slow coronary flow (SCF) syndrome" by Luo et al. (1). In this study, the authors examined the relationship between RDW and SCF syndrome. The authors concluded that RDW levels are strongly positively correlated with both C-reactive protein and thrombosis in the myocardial infarction frame counts of patients with SCF syndrome. The authors provided important information on this clinically relevant condition. The ready availability of testing for RDW at no additional cost could encourage its broader use in clinical practice. We would like to thank the authors for their contribution.

A complete blood count is a routine, easy and inexpensive examination technique that provides information regarding a patient's blood contents, which includes the red and white cells and platelets as well as the counts and dimensions of subgroups of parameters (2–4). RDW is a measurement of the variability in the size of circulating red blood cells and is a part of the complete blood count panel. Recently, a number of studies have reported that elevated RDW levels are associated with poor prognosis in the setting of coronary artery disease, coronary bypass surgery, heart failure, stroke, peripheral arterial disease and older age (5). However, RDW can also be influenced by ethnicity, neurohumoral activation, renal dysfunction, thyroid disease, hepatic dysfunction, nutritional deficiencies (i.e., iron, vitamin B<sub>12</sub> and folic acid), bone marrow dysfunction, inflammatory diseases and chronic or acute systemic inflammation (6).

In addition to RDW, the mean platelet volume, neutrophil lymphocyte ratio and CRP and uric acid levels are easy methods to evaluate in a patient with cardiovascular disease (7). These markers may be useful in clinical practice (8). Finally, it would be useful if the authors defined the timing of the RDW measurements because a delay in blood sampling can cause abnormal results in RDW measurements (9).

In conclusion, we do not believe that the findings obtained in the current study will lead to further studies examining the relationship between RDW and SCF. It is important to note that, in the absence of other inflammatory indicators, RDW alone does not provide an adequate representation of a patient's inflammatory status or disease prognosis (10). Therefore, we believe that the RDW level should be evaluated along with other serum inflammatory markers.

## REFERENCES

1. Luo S-H, Jia Y-J, Nie S-P, Qing P, Guo Y-L, Liu J, et al. Increased red cell distribution width in patients with slow coronary flow syndrome. *Clinics*. 2013;68(6).
2. Demirkol S, Balta S. Authors' comments on: the platelet volume in patients with cardiac syndrome X. *Clinics*. 2013;68(1):117, [http://dx.doi.org/10.6061/clinics/2013\(01\)LE02](http://dx.doi.org/10.6061/clinics/2013(01)LE02).
3. Demirkol S, Balta S, Unlu M, Yuksel UC, Celik T, Arslan Z, et al. Evaluation of the mean platelet volume in patients with cardiac syndrome X. *Clinics*. 2012;67(9):1019-22, [http://dx.doi.org/10.6061/clinics/2012\(09\)06](http://dx.doi.org/10.6061/clinics/2012(09)06).
4. Demirkol S, Balta S, Celik T, Arslan Z, Unlu M, Cakar M, et al. Assessment of the relationship between red cell distribution width and cardiac syndrome X. *Kardiol Pol*. 2013;71(5):480-4, <http://dx.doi.org/10.5603/KP.2013.0094>.
5. Balta S, Demirkol S, Aydogan M, Unlu M. Red cell distribution width is a predictor of mortality in patients undergoing coronary artery bypass surgery. *Eur J Cardiothorac Surg*. 2013;44(2):396-7, <http://dx.doi.org/10.1093/ejcts/ezt073>.
6. Balta S, Demirkol S, Hatipoglu M, Ardic S, Arslan Z, Celik T. Red cell distribution width is a predictor of mortality in patients with severe sepsis and septic shock. *Am J Emerg Med*. 2013;31(6):989-90.
7. Cingoz F, Iyisoy A, Demirkol S, Sahin MA, Balta S, Celik T, et al. Carotid intima-media thickness in patients with slow coronary flow and its association with neutrophil-to-lymphocyte ratio: a preliminary report. *Clin Appl Thromb Hemost*. 2013 Apr 23. [Epub ahead of print].
8. Demirkol S, Balta S, Unlu M, Arslan Z, Cakar M, Kucuk U, et al. Neutrophils/lymphocytes ratio in patients with cardiac syndrome x and its association with carotid intima-media thickness. *Clin Appl Thromb Hemost*. 2012 Nov 26. [Epub ahead of print].
9. Balta S, Demirkol S, Kurt O, Sarlak H, Celik T, Mikhailidis DP. Response to red blood cell distribution width is a predictor of readmission in cardiac patients. *Clin Cardiol*. 2013;36(6):364-5, <http://dx.doi.org/10.1002/clc.22139>.
10. Cakar M, Balta S, Demirkol S, Kurt O, Unlu M, Akhan M. Red cell distribution width should be assessed together with other inflammatory markers in daily clinical practice. *Cardiology*. 2013;124(1):60, <http://dx.doi.org/10.1159/000345927>.

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