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Confounding Factors Should be Considered in Determining the Utility of Platelet Indices for Prediction of Recurrent Pregnancy Loss

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We read the article entitled "Can Plateletcrit be a Marker for Recurrent Pregnancy Loss?" by Aynıoglu et al[1] with a great interest. The authors[1] reported that plateletcrit, an inexpensive and easily measurable laboratory variable, is independently associated with recurrent pregnancy loss (RPL). Their study is interesting, however, we have some questions.

Advanced age may affect platelet volume. Previous studies suggested that there is a direct relationship between age and platelet size.[2,3] Platelet indices such as MPV and plateletcrit are higher in elderly patients. In their study, they divided the patients into 2 groups according to RPL. In their cohort, the patients in RPL group were older than those in the control group. They did not adjust for this potential confounder. Age can influence platelet parameters.

Second, the platelet indices such as mean platelet volume (MPV) and plateletcrit increase with the delay in time between blood sample collection and measurement in EDTA-anticoagulated samples.[4] The optimal recommended time for measurement of platelet indices is 2 hours after venipuncture.[5] In their cohort, they did not provide details regarding measurement of platelet indices. In addition, the authors did not mention about seasonality. Recently, a seasonal variation was shown for both plateletcrit and platelet count in healthy patients.[6] Plateletcrit is higher in winter to autumn than in summer. Seasonality should be taken into account for platelet parameters.

Our another concern is about exclusion criteria. The authors did not mention anemia as exclusion criteria. Anemia can affect the hematologic parameters such as MPV and red cell distribution width. Park et al[7] reported that anemia was significantly associated with platelet, plateletcrit, and MPV. Anemia should be considered in investigation of hematologic parameters. Lastly, the authors did not mention about estimated glomerular filtration rate (eGFR). It was previously shown that there is a significant association between eGFR and platelet indices.[8] Plateletcrit increases as the glomerular filtration rate declines. The authors should provide details regarding measurement of renal function. These confounding factors should be considered in determining the utility of platelet indices for prediction of RPL.

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