Mean Platelet Volume After Renal Transplant: Time Is Important

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Dear Editor

I read with great interest the article by Sakalli and associates on the mean platelet volume as a potential predictor of renovascular thrombosis after a renal transplant. This study showed that platelet numbers increased, and mean platelet volume levels decreased, after a pediatric renal transplant. However, I want to make a minor criticism of this study: In the Methods section, the authors failed to mention the time between sample collection and laboratory analysis.

When blood comes in contact with ethylenediaminetetraacetic acid, mean platelet volume increases with time, and this increase has been shown to be proportional to the delay between venipuncture and measurement of mean platelet volume. Ethylenediaminetetraacetic acid increases intracellular cyclic AMP and induces progressive cellular swelling. As a result, ethylenediaminetetraacetic acid rapidly transforms platelets from their native disk shape, to a spherical shape, and increases the mean platelet volume. Maximal changes in the mean platelet volume occur after the first 2 hours postvenipuncture. As a result, various intervals between sampling and laboratory analyses can lead to unreliable data. To reliably measure the mean platelet volume in ethylenediaminetetraacetic acid, the laboratory analysis should be done within 2 hours of venipuncture. This fact is not made clear in the Sakalli and associates’ article.

References