Letter by Lee Regarding Article, “Matrix Metalloproteinase-9 in an Exploratory Trial of Intravenous Minocycline for Acute Stroke”

To the Editor:

Switzer et al investigated the effect of minocycline on plasma metalloproteinase-9 (MMP9) in acute ischemic stroke in the Minocycline to Improve Neurological Outcome in Stroke (MINOS) trial; they observed lower plasma MMP9 activity using zymography assay among tissue plasminogen activator-treated subjects.1

Given the ready availability of enzyme immunoassays for quantitative measurements of MMP9, I am interested why the authors chose zymographic analysis of MMP9 activity for the study cohort instead. Throughout the manuscript, the authors made reference to the MMP9 “levels” observed in the study subjects rather than MMP9 “activity,” which is slightly confusing. Did the authors also measure MMP9 level in the study subjects using quantitative methods?

I am also interested to learn more about the preanalytical considerations related to blood sample preparation. Measurement of MMP9 in human blood samples is known to be affected by several preanalytical issues, such as type of anticoagulant used for blood collection and type of sample matrix used for analysis.2,3 Specifically, MMP9 is secreted by both macrophages and platelets and is released after platelet activation; the level of MMP9 is typically higher in serum compared with in plasma.4

In this study, the author stated that “blood samples for MMP9 analysis were collected,” without indication of the type of blood samples used except in the conclusion paragraph of the abstract. Was the zymography assay performed using whole blood or blood products (eg, serum/plasma)? The comparator group of this study consisted of historic samples from patients in a previously conducted study. Internal validity of this study firmly relies on the use of the same type of samples in both cohorts.

Disclosures

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