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Reply to the Letter by Sharma et al: Hyperdense Middle Cerebral Artery Sign and Stroke Outcomes after Intravenous Thrombolysis

E.C. van Overbeek, R.J. van Oostenbrugge

Department of Neurology, Maastricht University Medical Center, Maastricht, The Netherlands

Thank you for the opportunity to respond to the reaction of Sharma et al. [1] to our study. The authors offer some interesting considerations. Indeed, the hyperdense middle cerebral artery sign (HMCAS) on baseline CT is a reliable marker of thromboembolic occlusion of the main stem of the MCA [2, 3] and one cannot tell whether the disappearance of the sign is truly correlated with vessel recanalization. Additionally, Sharma et al. [1] present a case in which HMCAS persisted despite proven arterial recanalization, which is an interesting observation.

The authors state that HMCAS on the initial scan can only predict possible poor clinical outcome reliably in patients managed conservatively [1]. However, Kharitonova et al. [4] describe more severe stroke and worse outcome after 3 months in patients treated with intravenous thrombolysis with HMCAS on the initial CT scan. As such, HMCAS is a predictor of poor outcome in stroke patients managed conservatively as well as in stroke patients treated with intravenous thrombolysis.

Furthermore, Sharma et al. [1] propose to predict long-term outcome in acute ischemic stroke by looking for the persistence of HMCAS instead of its disappearance. Indeed, if recanalization occurs too late, tissue damage will occur. In our study, patients with an isolated striatocapsular infarct, which is thought to be the result of a relatively short-lasting occlusion of the MCA main stem

[5], were more likely to have a good outcome compared with patients with large infarcts with cortical and striatocapsular involvement [6]. However, the difference between the 2 groups was not significant [6]. We did not study whether the persistence of HMCAS on the follow-up scan was related to the outcome. This was beyond the scope of our study. We do think the suggestion made by the authors is interesting, requiring further research.

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E.C. van Overbeek

Department of Neurology, Maastricht University Medical Center
PO Box 5800

NL-6202 AZ Maastricht (The Netherlands)

Tel. +31 43 387 5062, Fax +31 43 387 7055

E-Mail e.overbeek@mumc.nl