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Letter to the Editor

The Distinction Between TIA, TIA+, and TGA should not only be Based on Cerebral MRI, but also on Clinical Examination and EEG

Josef Finsterer
Department of Neurology, Neurology & Neurophysiology Center, Vienna, Austria

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Corresponding Author: **Josef Finsterer**

Letter to the Editor

We read with interest the article by Duda *et al*. on a study to develop standardized procedures for selecting patients with transient ischemic attack (TIA), transient global amnesia (TGA), or TIA with a lesion on diffusion-weighted imaging (DWI) (TIA+) for cerebral imaging [1]. TIA+ patients were significantly older than TIA or TGA patients, had coronary heart disease more often, had higher C-reactive protein levels, had more severe symptoms, and received antiplatelet therapy less often than TGA and TIA patients [1]. It was concluded that a lack of stroke prevention can lead to a more severe course of TIA, TIA+, and TGA [1]. The study is noteworthy, but some points should be discussed.

The first point is that the study was retrospective in design, which has several disadvantages [2]. Retrospective studies carry a high risk of bias, such as memory bias and selection bias, as researchers rely on existing, potentially inconsistent data that may have been collected for other purposes [2]. Retrospective designs may have low internal validity, making it difficult to establish a causal relationship, and may lack external validity due to differences in patient populations [2]. In addition, information is often missing because the charts were not created for research purposes, and confounding variables may not be measured, leading to inaccurate conclusions [2].

The second point is that a patient with a focal neurological deficit who arrives at the emergency department within the time window for thrombolysis or thrombectomy should not be denied multimodal MRI. Since it is not possible in the acute situation to say whether the deficit will resolve within 24 hours and whether there is an indication for thrombolysis or thrombectomy, an MRI examination should be performed in any case. As a rule, it is still more cost-effective to perform an MRI than to treat a stroke with focal deficits without thrombolysis.

The third point is that cerebral imaging using MRI is not useless even in patients with TGA. Cerebral MRI in TGA patients is not always normal, as it can occasionally show punctate DWI lesions in the hippocampus [3] or even a hippocampal stroke [4].

The fourth point is that distinguishing between TIA and TGA also requires EEG recordings. Since confusion and perseveration can also be manifestations of non-convulsive status epilepticus (NCSE), it is imperative to record an EEG in all patients diagnosed with TGA. How many of the patients with TGA actually had NCSE?

The fifth point is that the study did not achieve its objective [1]. According to the introduction, the study aimed to evaluate similarities and differences between TGA, TIA, and TIA+ in terms of risk factor profile and clinical, laboratory, and neuroimaging findings, but no differences or similarities between TIA and TGA were presented or discussed [1]. The study was also unable to develop standardized procedures for selecting patients with focal deficits for cerebral imaging.

In summary, it can be said that not only cerebral imaging but also clinical examination and EEG recordings are essential for distinguishing between TIA, TIA+, and TGA.

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