Transient ischemic attack (TIA) is a very important clinical event that heralds the occurrence of an early ischemic stroke. This condition requires urgent investigations and immediate preventive measures. It is very important that TIA is identified correctly; however, diagnosis of TIA is often complicated due to short-lasting symptoms and retrospective evaluation. This process is highly subjective and often relies on the neurologist’s impression. A recent study from Australia has shown that only a small proportion (22%) of patients referred to a specialized TIA clinic by general practitioners from emergency departments or other hospital units were given a final diagnosis of TIA or stroke by the clinician who was technically qualified to diagnose TIA [1]. Moreover, inter-observer agreement of TIA diagnosis, even among stroke neurologists, is rather poor [2].

Buchwald et al. [3] have recently reported the validity of TIA diagnoses of the National Swedish Stroke Register (Riksstroke; RS) TIA-module in Neuroepidemiology. Medical records were reviewed by 2 independent experts. They assigned a diagnosis of likely, possible, unlikely TIA or ischemic stroke, based on prespecified criteria. TIA was confirmed (as likely or possible) by both observers in 77% of cases. Authors found a high rate of agreement on TIA diagnoses, supporting the validity of RS-TIA. However, a considerable number of diagnostic uncertainties deserves some comments.

Inter-observer disagreement in 8% of cases on TIA versus ischemic stroke in this study is not surprising. In current clinical practice, this uncertainty may be even greater, depending on different definitions of TIA and availability of diffusion-weighted imaging (DWI) for investigations of acute cerebrovascular events. Authors used a ‘classical’ time-based TIA definition. However, as we know from TIA studies with neuroimaging assessment including diffusion sequences, one third of patients with transient neurological episode lasting up to 1 hour already have new ischemic lesions on DWI-MRI, suggesting that even 1 hour does not precisely demarcate events with and without brain tissue infarction [4]. In order to facilitate diagnostic dilemma ‘TIA or stroke’, a tissue-based (imaging-based) TIA definition has been suggested without any particular time-point [5]. However, the use of acute MRI in all patients presenting with suspected TIA is still unrealistic due to limited resources, especially in lesser-developed countries or less-populated areas. Recent meta-analysis and economic evaluation of neuroimaging cost-effectiveness in patients with TIA and minor stroke showed that MRI with DWI is not cost-effective in stroke prevention, compared with CT brain scanning in all patients [6]. From a practical point of view, the differences between TIA and ischemic stroke with transient symptoms probably are not so important because the principles and methods of secondary stroke prevention after TIA and ischemic stroke are the same.

I would be more concerned about 10.5% disagreement on a vascular or non-vascular causes of symptoms (TIA/stroke vs. unlikely cerebrovascular event), as it may lead to a situation where patients, who are at high risk for stroke, may not be recognized, which may result in inadequate therapies or excess direct/indirect hospital and intangible costs [7]. TIA mimics constitute about 40–45% of patients attending clinics [6], and misinterpretation of non-focal signs and symptoms, such as headache, involuntary movement or dizziness, may lead to discordant TIA diagnoses in 36% of patients [8]. We are looking forward to finding novel biomarkers that will enable rapid and accurate TIA confirmation [9]; however, clinical criteria still remain the cornerstone of TIA diagnosis, at least in the near future. Continuing education of stroke signs and symptoms should not only increase awareness of population but also improve the accuracy of presumed TIA diagnosis.

Quality of documentation is one of the major factors for inter-observer agreement in this study and for validity of TIA diagnosis in general. The finding that in 23.3% of medical records neither exact, nor estimated duration of symptoms was documented makes the differentiation between TIA and stroke really difficult in these cases, considering the fact that time-based TIA definition has been used. All key components of neurological examination were documented only in 25.6% of cases, speech/language and vision being the most frequently missed features in documentation (54.1 and 45%, respectively). Therefore, I fully agree with the authors’ conclusion that the credibility of TIA diagnosis in similar registries or studies may be improved by systematic and structured description of neurological manifestations and duration of the symptoms.

References


