Response to Letter Regarding Article, “A Prospective Cohort Study of Patients With Transient Ischemic Attack to Identify High-Risk Clinical Characteristics”

We thank Drs Purroy and Kelly for their comments on our prospective derivation of a new risk score for emergency patients with suspected transient ischemic attack (TIA). To the best of our knowledge, the Canadian TIA Score is the first prediction score to be entirely derived prospectively in the emergency department. As such, we think that this score will outperform all versions of the ABCD2, which were derived using largely retrospective data and delayed specialist assessment. Although ABCD2 performed relatively well in administrative database studies, we found it performed only slightly better than chance alone in new emergency patients (C-statistic=0.56; 95% confidence intervals [0.47–0.65]). Clinical prediction tools need to be derived in the setting in which they will be used. The Canadian TIA Score is the largest prospective study of emergency patients with suspected TIA, with 3906 patients, and has good accuracy (C-statistic=0.77; 95% confidence intervals [0.73–0.82]) at 7 days and (0.78; 95% confidence intervals [0.73–0.84]) at 2 days.

Although prospective validation is required before fully incorporating the Canadian TIA Score into clinical practice, we are confident that robust methodology has yielded a useful assessment tool. The score may seem detailed, and both score fatigue and accurate interpretation remain important concerns. On the contrary, TIA remains a heterogeneous and complex condition that will require nuanced risk stratification. Ultimately, in this age of smart phones and accessible information, we would not want a desire for alphabetic simplicity to stifle original research nor thwart clinical implementation.

Although Drs Purroy and Kelly would prefer that we use the ABCD3-I Score, this score presupposes that every patient undergoes immediate brain and carotid imaging. Although we agree that carotid imaging is important in a subset of TIA patients with critical carotid stenosis, current practice in many Canadian emergency departments is to selectively image high-risk patients with anterior circulation neurological deficits in the emergency department before discharge, and to perform further carotid imaging as an outpatient. Moreover, magnetic resonance imaging is inconsistently available and performed in patients with suspected TIA. As such, advanced imaging findings are often not available to front-line physicians diagnosing a patient with a new TIA, and cannot be a component of our tool intended for these same clinicians. Incorporating advanced imaging would either mandate a large increase in such testing with the attendant issues of cost, access, overuse, and increased emergency department stay or result in a decision instrument with limited applicability to the typical emergency patient.

Finally, we did collect data on previous TIAS, including the number of recent TIAS. These factors do not appear in the Canadian TIA Score because our analysis did not find them to be a significant independent predictor of impending stroke.

Disclosures

None.

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