Is the ABCD Score Truly Useful?

Michael D. Hill, MD, MSc; Nicolas U. Weir, MD, MSc

See related article, pages 1710–1714.

The understanding of transient ischemic attack (TIA) has changed. The high early risk of stroke demands rapid assessment and treatment. Some patients, such as those with TIA attributable to an active carotid artery plaque, appear to be at higher risk than others. The direct result of this paradigm shift is the need to develop tools for stratifying patients according to risk. Although some have adopted a strategy of admitting all TIA patients, this approach may not be the most efficient. Clinical prediction rules may be the most helpful in triaging patients. Factors that are risks for early stroke include clinical ones such as age, diabetes mellitus, longer duration TIA, motor or speech symptoms of TIA, and imaging factors such as the presence of carotid artery disease or a diffusion-weighted imaging lesion on MRI. The clinical imperative is to sort out those patients who need immediate attention and those who do not.

Why must we risk stratify? A large number of TIA patients do not go on to experience an early stroke. These patients do not need to be exposed to potentially risky therapies from which they will derive no benefit, nor do they need to use scarce and high-intensity resources. The corollary is that we need to learn how to identify those patients who truly are at high risk and offer them emergent assessment, imaging and therapies where the benefit clearly outweighs the risk.

The ABCD score, developed in England, is a clinical tool to stratify TIA patients according to their 7-day risk of stroke. The score is derived as follows:

- Age >60 = 1 point
- BP >140/90 = 1 point
- Clinical features: unilateral weakness = 2 points; language disturbance without weakness = 1 point; Other = 0 points.
- Duration: >60 minutes = 2 points; 10 to 59 minutes = 1 point; <10 minutes = 0 points.

The score was derived from the OCSP cohort from 2 decades ago and validated in a more recent cohort in Oxfordshire. A score <4 predicted a 0% risk of stroke in the first week.

The present study assessed the ABCD score in a North American series of TIA patients and concluded that the ABCD score is not useful. However, it should be carefully noted that the outcome chosen was a composite one including stroke, death, ipsilateral carotid stenosis >50% or a cardioembolic source warranting anticoagulation. Although this choice of outcome is a pragmatic one, it is different than the stroke or death outcome on which the ABCD score was validated.

In contrast to the risk of stroke of 10% in the Oxfordshire series, the risk of stroke was slightly <2% in this Pennsylvania series, perhaps because some patients with stroke in the first 24 hours were not included in the cohort. Only 2 patients with ABCD scores of 3 and 6 experienced stroke. This observation makes the point that an ABCD score <4 does not imply an absence of risk, but the number of outcomes is too small to comment further.

It is certainly possible that the populations are different. This is the major reason why clinical prediction rules must be cross-validated in different populations of patients. What appears an excellent rule in one population may not be so useful in another because of inherent differences in risk profile. Although the ABCD rule, without a doubt, will work well in the Oxfordshire and perhaps British population, further work is needed on the ABCD rule to assess its global validity.

How best to triage TIA/minor stroke patients? Our view is that it seems likely that the clinical features of longer duration and motor/speech symptoms are the key criteria warranting more urgent assessment. MR diffusion-weighted imaging then provides the natural technique for assessing the presence or absence of true ischemia. At the same time the neurovascular can be assessed to understand potential mechanisms and identify the need for carotid revascularization.

Disclosures

None.

References


Key Words: acute stroke ■ transient ischemic attack

© 2006 American Heart Association, Inc.