Absence of Usefulness of ABCD Score in the Early Risk of Stroke of Transient Ischemic Attack Patients

To the Editor:

With great interest we read the study of Cucchiara et al1 about the usefulness of the ABCD score,2 developed by Rothwell et al. A 6-point score derived from the Oxfordshire Community Stroke Project cohort (age ≥60 years=1, blood pressure [systolic >140 mm Hg and/or diastolic ≥90 mm Hg]=1, clinical features [unilateral weakness=2, speech disturbance without weakness=1, other=0], and duration of symptoms in minutes [≥60=2, 10 to 59=1, 10≤0]=0; ABCD) was highly predictive of 7-day risk of stroke in the Oxfordshire cohort. In contrast to the Oxfordshire series, the ABCD score is not useful in a North American cohort of transient ischemic attack (TIA) patients. We are pleased to present a study with similar results. We test the ABCD score in 345 consecutive TIA patients attended within 24 hours by the vascular neurologist in the emergency room. Clinical data, symptom duration, neuroimaging and ultrasonographic (carotid and transcranial) findings were prospectively collected within the first 24 hours after symptoms onset. A total of 17 (4.9%) patients had a stroke recurrence within the first 7 days after symptoms onset. Seven of 17 (42.2%) strokes occurred in 124 (35.9%) patients with a score of 5 or greater, whereas 7-day risk was 4.5% (95% CI, 3.38 to 6.68) in 221 (64.1%) patients with a score <5 (Table). In Cox proportional hazards multivariate analyses in which age, sex, vascular risk factors and variables showing P<0.1 on univariate models were included, only large-artery occlusive disease remained independent predictor for stroke recurrence (hazard ratio 5.88 [95% CI, 2.17 to 15.89; P<0.001]).

After a first TIA up to 20% of patients had a stroke within the next 90 days, and in 50% of them, the stroke recurrence occurs within the first 24 to 72 hours after the event.3–5 Consequently, TIA must be considered a medical emergency. However, only a small number of clinical factors have been found to be weakly associated with an increased risk of stroke after TIA (advanced age, diabetes mellitus, symptoms lasting >10 minutes, weakness and impaired speech) and consequently patients at highest risk of recurrent events cannot be reliably identified.6 We previously demonstrated that TIA patients with moderate to severe intracranial or extracranial stenoses have a higher risk of stroke recurrence7 which may indicate that clinical data are not enough to identify those patients at higher risk.8,9 Moreover, MR diffusion-weighted imaging which assesses the presence or absence of true ischemia could be a useful prognostic method.10,11 The combination of clinical, radiological and vascular information may improve the predictive accuracy of stroke recurrence risk.10 The routine use of combined carotid/transcranial ultrasound testing performed early will be useful for identifying high risk individuals in order to plan urgent aggressive prevention therapies.

Disclosures

None.

Seven-Day Risk of Stroke Stratified According to ABCD Score

<table>
<thead>
<tr>
<th>ABCD Score</th>
<th>Patients (%)</th>
<th>Events (%)</th>
<th>% Risk (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>15 (4.4)</td>
<td>1 (5.9)</td>
<td>7.7 (0–21.18)</td>
</tr>
<tr>
<td>2</td>
<td>49 (14.2)</td>
<td>3 (17.6)</td>
<td>6.1 (0–12.8)</td>
</tr>
<tr>
<td>3</td>
<td>55 (15.9)</td>
<td>3 (17.6)</td>
<td>5.5 (0–11.5)</td>
</tr>
<tr>
<td>4</td>
<td>103 (29.9)</td>
<td>3 (17.6)</td>
<td>2.9 (0–6.1)</td>
</tr>
<tr>
<td>5</td>
<td>90 (26.1)</td>
<td>5 (29.4)</td>
<td>5.6 (0.8–10.4)</td>
</tr>
<tr>
<td>6</td>
<td>33 (9.6)</td>
<td>2 (11.8)</td>
<td>6.1 (0–14.3)</td>
</tr>
<tr>
<td>Total</td>
<td>345</td>
<td>17 (100)</td>
<td>4.9 (2.6–7.2)</td>
</tr>
</tbody>
</table>

Francisco Purroy, MD, PhD
Stroke Unit
Department of Neurology
Hospital Universitari Arnau de Vilanova de Lleida
Universitat de Lleida
Lleida, Spain

Carlos A. Molina, MD, PhD
Joan Montaner, MD, PhD
José Álvarez-Sabín, MD, PhD
Neurovascular Unit
Hospital Universitari de la Vall d’Hebron
Barcelona, Spain


Absence of Usefulness of ABCD Score in the Early Risk of Stroke of Transient Ischemic Attack Patients
Francisco Purroy, Carlos A. Molina, Joan Montaner and José Álvarez-Sabín

*Stroke*. 2007;38:855-856; originally published online January 18, 2007;
doi: 10.1161/01.STR.0000257306.00512.d3

*Stroke* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2007 American Heart Association, Inc. All rights reserved.
Print ISSN: 0039-2499. Online ISSN: 1524-4628

The online version of this article, along with updated information and services, is located on the
World Wide Web at:
http://stroke.ahajournals.org/content/38/3/855

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in *Stroke* can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to *Stroke* is online at:
http://stroke.ahajournals.org//subscriptions/