The ABCD² Scoring System for Transient Ischemic Attacks: A Review

Context
Stroke is currently the third-leading cause of death or disability in Canada, resulting in an estimated associated cost of $3.6 billion per year. In the United States, studies have shown that approximately 23% of strokes are preceded by a transient ischemic attack (TIA). Accurate TIA diagnosis is important so that those who will benefit from medical interventions to lessen the risk of stroke receive the appropriate treatment.

Technology
Because of the increased risk of stroke after a TIA, health care providers have developed tools to calculate the risk of a patient experiencing subsequent ischemic events. The ABCD² system is used to predict the risk of stroke within seven days post-TIA. The ABCD² score is a sum of scores for each of five criteria: age, blood pressure, clinical features (unilateral weakness and speech disturbance), duration of symptoms, and diabetes.

Issue
Over the past few years, there have been conflicting reports on the accuracy of predictions made using the ABCD² system — some indicate the system has a high degree of accuracy, while others suggest the results are comparable to chance. A review of the diagnostic accuracy and predictive value of the ABCD² scoring system for the identification of TIA and the estimation of future stroke risk will help inform decisions about the use of this tool.

Methods
A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages
- The ABCD² scoring system can be a valuable tool for predicting stroke risk following a TIA, depending on the clinical setting in which it is used.
- ABCD² scoring has a higher predictive value when:
  - performed by a trained neurological expert rather than an emergency room physician
  - determined by a face-to-face assessment rather than a retrospective chart review.

Results
The literature search identified 131 citations, with no additional articles identified from other sources. After screening the abstracts, 39 were deemed potentially relevant, and 12 met the criteria for inclusion in this review — 2 systematic reviews and 10 non-randomized studies.

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