

The ABCD of
TIA & CVA

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Transient Ischemic Attack

- “Brief episode of neurologic dysfunction caused by focal brain or retinal ischemia, with clinical symptoms typically lasting less than one hour, and without evidence of acute infarction.”

Transient Ischemic Attack

- 15%-30% of strokes preceded by TIA
- Timing of TIA
 - 17% stroke at 24 hours
 - 9% stroke at 1 day
 - 43% stroke at 7 days

ABCD

- AGE

- ≥ 60

- BLOOD PRESSURE

- > 140 SBP post TIA
- ≥ 90 DBP post TIA

- CLINICAL FEATURES

- Unilateral Weakness
- Speech disturbance without weakness

- DURATION

- ≥ 60 minutes
- < 60 minutes

ABCD

- AGE (1)
 - $< 60 = 0$
 - $\underline{\geq} 60 = 1$
- BLOOD PRESSURE (1)
 - $\text{SBP} \underline{\leq} 140 \ \& \ \text{DBP} < 90 = 0$
 - $\text{SBP} > 140 \ \text{or} \ \text{DBP} > 90 = 1$
- CLINICAL FEATURES (2)
 - Unilateral weakness = 2
 - Speech without weakness = 1
 - Other = 0
- DURATION (2)
 - $\underline{\geq} 60$ minutes = 2
 - 10 - 60 minutes = 1
 - < 10 minutes = 0

Stroke Risk

	Patients (%)	Strokes (%)	% risk (95% CI)
ABCD score			
≤1	2 (1%)	0	0
2	28 (15%)	0	0
3	32 (17%)	0	0
4	46 (24%)	1 (5%)	2.2 (0-6.4)
5	49 (26%)	8 (40%)	16.3 (6.0-26.7)
6	31 (16%)	11 (55%)	35.5 (18.6-52.3)
Total	188 (100%)	20 (100%)	10.5 (6.2-14.9)

Table 3: 7-day risk of stroke stratified according to ABCD score at first assessment in the OXVASC validation cohort of patients with probable or definite TIA

Stroke Risk

TABLE 2. The 7- and 30-Day Risks of Stroke Stratified According to the ABCD Score

ABCD Score	Patients	7 Days		30 Days	
		Strokes	Risk (%; 95% CI)*	Strokes	Risk (%; 95% CI)†
0	5 (2.2%)	0	0	0	0
1	12 (5.3%)	0	0	0	0
2	22 (9.7%)	0	0	0	0
3	58 (25.7%)	1 (5.6%)	1.7 (0–5.1)	2 (9.1%)	3.5 (0–8.2)
4	66 (29.2%)	5 (27.8%)	7.6 (1.2–14.0)	5 (22.7%)	7.6 (1.2–14.0)
5	47 (20.8%)	9 (50.0%)	19.1 (7.8–30.4)	10 (45.5%)	21.3 (10.4–33.0)
6	16 (7.1%)	3 (16.7%)	18.8 (0–37.9)	5 (22.7%)	31.3 (8.6–54.0)
Total	226 (100%)	18 (100%)	8.0 (4.5–11.5)	22 (100%)	9.7 (5.8–13.6)

*Log-rank test=17.46; df=6; $P=0.0077$; P for linear trend across the ABCD score levels=0.0003; †Log-rank test=23.09; df=6; $P=0.0008$; P for linear trend across the ABCD score levels<0.00001.

TIA at Altru

- April 2005-February 2007
 - 364 Patients
 - 99 from Area Providers
 - 105 from Altru Internal Medicine
 - 160 from Altru/North Valley Family Medicine
 - 90 alternative diagnosis within 30 days
 - 70 diagnosed with TIA

ABCD Scores in Altru FM

ABCD Score	Patients (%)	Strokes (%)	% Risk
≤1	2 (3)		
2	5 (8)		
3	8 (14)		
4	14 (24)		
5	20 (33)		
6	11 (18)	2 (100)	18%

10 Records with incomplete information

Stroke after TIA

- Two incidences of Stroke following TIA
 - ABCD Score = 6
 - 1 at 24 hours
 - 1 at 11 days

Stroke Prevention following TIA

- Risk Reduction
 - Hypertension
 - Diabetes
 - Lipids
 - Smoking
 - Heavy Alcohol Use
 - Obesity
 - Physical Activity

Stroke Prevention following TIA

- Extracranial Carotid Disease (>70%)
- Atrial Fibrillation
 - Anticoagulation (INR 2.0-3.0)
 - Aspirin 325 mg daily (alternative)
- Acute Myocardial Infarction with Left Ventricular Thrombus
 - Anticoagulation (INR 2.0-3.0) 3-12 months
 - Plus Aspirin 81-162 mg daily
- Cardiomyopathy
 - Anticoagulation or Antiplatelet

Stroke Prevention following TIA

- Valvular Heart Disease
 - Rheumatic Mitral Valve Disease
 - Anticoagulation
 - Aspirin 81 mg daily if warfarin failure
 - Mitral Valve Prolapse
 - Antiplatelet
 - Aortic Valve Disease
 - Antiplatelet
- Prosthetic Valve
 - Mechanical: Anticoagulation (INR 2.5-3.5)
 - Mechanical: Aspirin 75-100 mg daily if warfarin failure
 - Bioprosthetic: Anticoagulation (INR 2.0-3.0)

Stroke Prevention following TIA

- Noncardioembolic
 - Aspirin
 - Clopidogrel
 - Dipyridamole and Aspirin
- Arterial Dissection
 - Anticoagulation 3-6 months
 - Antiplatelet
- Patent Foramen Ovale
 - Antiplatelet
 - Closure

Stroke Prevention following TIA

- Hyperhomocysteinemia
- Hypercoagulable State
 - Inherited Thrombophilia
 - Antiphospholipid Antibodies
 - Sickle Cell Disease
- Pregnancy
- Hormone Replacement Therapy

References

- Tsivgoulis et al. Validation of the ABCD score in identifying individuals at high early risk of stroke after a transient ischemic attack. *Stroke*. 2006;37:2892-2897.
- Rothwell et al. A simple score (ABCD) to identify individuals at high early risk of stroke after transient ischaemic attack. *Lancet*. 2005;366:29-36.
- Sacco et al. Guidelines for prevention of stroke in patients with ischemic stroke or transient ischemic attack. *Stroke*. 2006;37:577-617.