

July 10, 2014
TIA – STROKE HANDOUT
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Defining TIA

- Subjective
- Poor agreement
- Traditional definition (<24 hrs) missed strokes

Why We Care

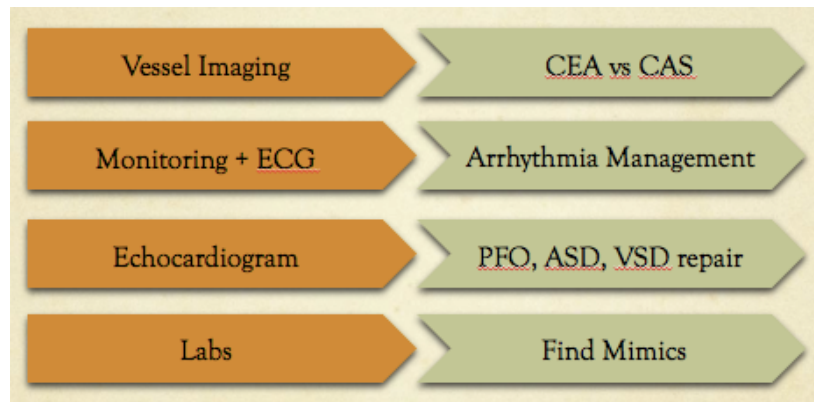
- 30-50% TIAs are actually strokes
- 15% TIAs will have stroke in 3 months
- ½ of those within 48 hours
- 500,000 TIAs in U.S. annually
- Risk increases with age, Black, Mexican American

ABCD2 Score for TIA

Variable	Score
Age ≥ 60 years	1
First BP ≥ 140/90 mmHg	1
Clinical:	
Unilateral Weakness	2
Speech Impairment without weakness	1
Duration	
10-59 mins	1
≥ 60 mins	2
Diabetes mellitus	1

TIA Workup

- MRI within 24hrs with DWI
- Non-invasive cervical vessel imaging (Doppler, CTA, MRA)
- Non-invasive intracranial vessel imaging
- Electrocardiogram
- Echocardiography and monitoring *
- Labs (CBC, chem, INR, fasting lipids)



CT vs MRI

- MRI more sensitive
- DWI provides pathophys insight into stroke
- MRI most useful with TIAs

- CT, CTA, CTP may provide comprehensive information

Vessel Imaging

- Carotid Doppler
 - Readily available
 - No contrast
- CT angiography
 - Readily available
 - Similar to MRA
- MR angiography
 - Most sensitive?
 - Can do with MRI

Urgency of Workup

- EXPRESS trial
- Non-randomized imbedded cohort study
- Conventional (3 day) vs urgent (<1 day) follow up
- Anti-platelet, statin, BP medication, CEA prn
- Recurrent stroke at 90 days 10.3% vs 2.1% (ARR)

Admission Consideration

- ABCD² score ≥3
- ABCD² 0-2 unable to get workup in 48hrs
- ABCD² 0-2 + evidence of focal ischemia (MRI)

Why Admit TIAs?

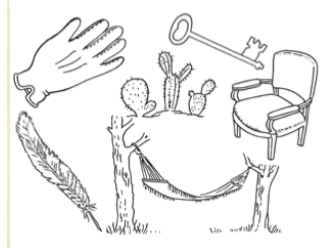
- More rapid t-PA admin
- Expedited TIA workup
- Start secondary prevention
- Cost effective for outcomes *

Mimics

- Hypoglycemia
- hyponatremia
- Seizure
- Complex Migraine
- Neuropathy
- Syncope

NIHSS In Case 2

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IV t-PA Inclusion Criteria

- Ischemic stroke

- Clear time of onset
- Deficit measurable on NIHSS
- No ICH on CT

IV t-PA Exclusion Criteria

- Stroke or head trauma past 3 months
- Major surgery past 14 days
- History of ICH
- **SBP > 185 or DBP > 110**
- Rapid improving Sx
- Sx of SAH
- GI or urinary hemorrhage past 21 days
- Non compressible arterial puncture in past 7 days
- Seizure at stroke onset
- Anticoagulation (heparin)
- PT > 15 seconds
- Platelets < 100,000
- Glucose < 50 or > 400 mg/dL

Summary of current tPA stroke research

Study	Year	Summary
<u>NINDS</u>	95	T-PA possibly beneficial?
<u>IST</u>	97	Heparin no net benefit, <u>ASA</u> safe
<u>ECASS 3</u>	08	T-PA safe to 4.5 hours?
<u>IST-3</u>	12	No benefit t-PA out to 6 hours
<u>Meta-analysis</u>	12	No safe conclusions, heterogeneous studies

T-PA Current Evidence

- T-PA will help reduce stroke symptoms by 12% at 3 months
- 6% ICH risk in general population, higher risk with sicker / older patients
- Overall study quality is poor
- Alternatives include anti-platelet therapy and medical management
- Many stroke patients improve without t-PA

Summary

- ABCD² to risk stratify
- Workup for TIA early
- ASA for prevention
- Anticipate POINT trial
- ED for higher risk patients
- Practice NIHSS
- Learn local t-PA criteria
- Rehearse consent for t-PA
- Anticipate future studies for select populations
- More to come on IA t-PA