KANSAS INITIATIVE FOR STROKE SURVIVAL

A PROJECT BY AND FOR KANSANS

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Transient Ischemic Attack

"First Tuesdays" Lecture Series

Introduction and Goal of “First Tuesdays”

- Sabreena Slavin MD – Vascular Neurologist and Neurohospitalist at KU School of Medicine
- Didactic lecture series as part of the Kansas Initiative for Stroke Survival
- Updates in Practice and FAQ’s on Acute Stroke Care
- 20 minute didactic, 10 minutes for questions/discussion.

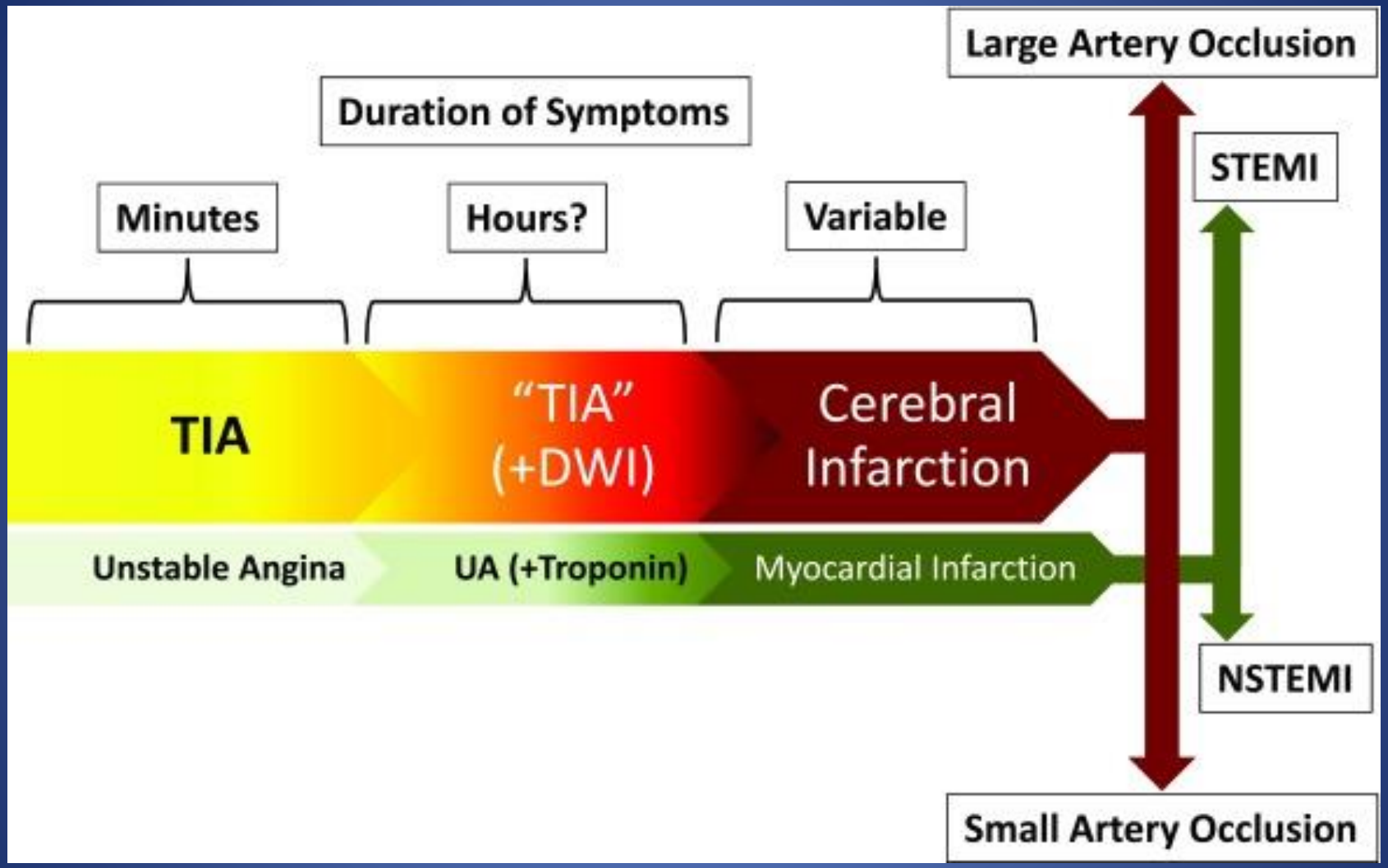
Review of Acute Stroke Interventions

- IV alteplase (tPA) for all patients who have **disabling symptoms** of acute stroke
- Mechanical thrombectomy: **only for large vessel occlusions (LVO).** Only hospitals with capabilities (eg: comprehensive stroke center) can perform thrombectomy.
  - A higher NIHSS (10 or more) can be indicative of a large vessel occlusion.
  - Diagnosed with CTA head/neck

Definition of TIA

- Classical definition: Neurological symptoms attributable to ischemia that last less than 24 hours in duration.
- Newer definition: Neurological symptoms attributable ischemia **without evidence of ischemia in imaging or pathology**

Sacco et al, *Stroke* 2013



Gomez et al, *F1000Research* 2017

Stroke risk after TIA

- Patients with either a mild stroke (NIHSS of 3 or less) or a TIA have a risk of recurrent stroke of 18% in the first 90 days.
- Can classify further based on ABCD2 scoring system.

Coull et al, *BMJ* 2004

ABCD2

- Age ≥ 60 = 1 point
- Blood pressure ≥ 140 systolic OR ≥ 90 diastolic = 1 point
- Clinical symptoms
  - Unilateral weakness = 2 points
  - Speech disturbance = 1 point
- Diabetes = 1 point
- Duration
  - Lasting ≥ 60 minutes = 2 points
  - Lasting 10-59 minutes = 1 point

Johnston et al, *Lancet* 2007

Scoring of ABCD2

- High risk: 6-7 = 8.1% 2 day risk and 17.8% 90 day risk
- Moderate risk: 4-5 = 4.1% 2 day risk and 9.8% 90 day risk
- Low risk: 0-3: 1% 2 day risk and 3.1% 90 day risk

Newer improvements to ABCD2 scoring

- **ABCD3-I scoring:**
- Dual TIA's (a preceding TIA within 7 days of current TIA) = 2 points
- Carotid imaging with ≥ 50% stenosis on carotid artery responsible for symptoms = 2 points
- MRI imaging showing a DWI-positive lesion = 2 points

Merwick et al, *Lancet* 2010

ABCD3-I scoring

- Score of 1-3: 1% 90 day stroke risk
- Score of 4-7: 2% 90 day stroke risk
- Score of 8-13: 8% 90 day stroke risk

Merwick et al, *Lancet* 2010

Limitations of scoring systems

- A significant proportion of patients classified into “low-risk” will still have recurrent strokes
- Does not take into account other medical issues such as new-onset atrial fibrillation, hypercoagulability, etc.
- Conversely, does not take into account potential stroke mimics

Location of TIA workup

- Ambulatory setting favors cost-effectiveness
- In-hospital setting favors expediency of care, patient safety, better outcomes
- Other options are 24-hour hospital observation and expediated appointments in a specialized “TIA-clinic”

Gomez et al, *F1000Research* 2017

Workup for TIA

- CT brain without contrast and MRI brain without contrast
- Non-invasive vessel imaging: ideally CTA head and neck and MRI head and neck
- Telemetry while in ED and hospital
- Lab workup: lipid panel and HbA1c
- Transthoracic echocardiogram – *may consider as outpt if low risk and rapid follow-up available*
- 24 hour observation – *may consider truncating if low risk and rapid follow-up available*

Bottom Line

- TIA's are now defined as any transient stroke-like symptoms without evidence of stroke on brain imaging
- Scoring systems including MRI and vessel imaging can help to stratify risk
- Majority of patients should have all their workup completed before discharge. May *consider* completing expediated outpt workup and follow-up for low-risk patients.

Questions?

- Call for help anytime!
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