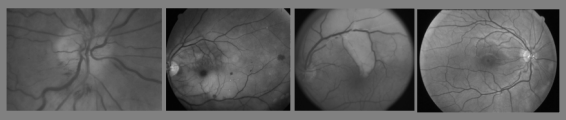
Acute Retinal Ischemia: An Emergency Often Ignored



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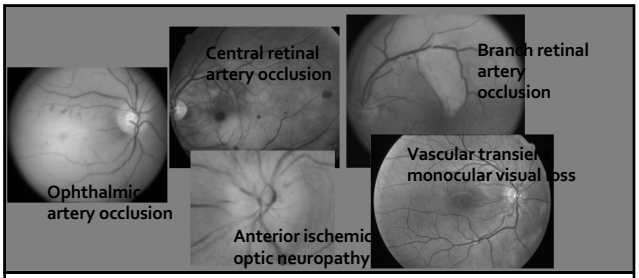
Disclosures

- No relevant disclosures
- Consultant for GenSight Biologics

71 yo man

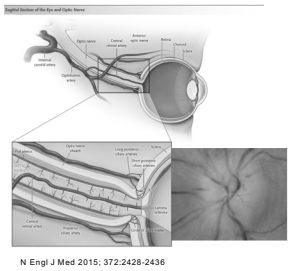
- With acute visual loss in one eye…



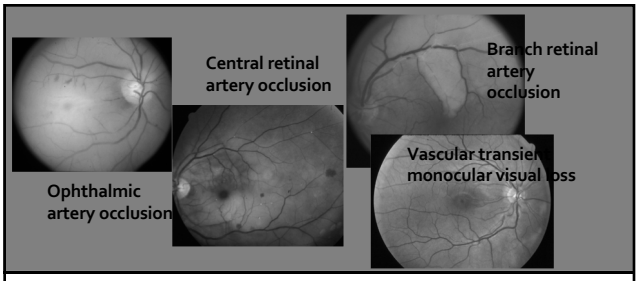
Acute arterial (optic nerve/retina) ischemia
***Vascular* arterial cause of visual loss**

Anterior Ischemic Optic Neuropathy

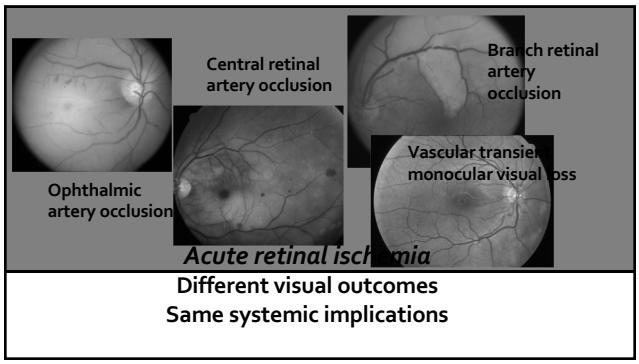
- **Not the same kind of "stroke"**
  - Small vessel disease
- **Think giant cell arteritis:**
  - Older than 50 yo
  - Transient or permanent visual loss



N Engl J Med 2015; 372:2428-2436



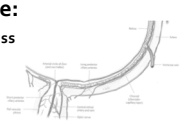
Acute retinal arterial ischemia

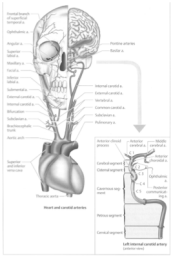


Different visual outcomes
Same systemic implications

Acute Retinal Arterial Ischemia

- **It's all the same:**
  - **Transient visual loss**
  - **BRAO**
  - **CRAO**
  - **OAO**





- Same vascular territory as brain (anterior circulation)
- Same mechanisms and causes as cerebral ischemia

Acute Retinal Arterial Ischemia

GCA?

4 problems

- Risk of stroke
- Risk of cardio-vascular disease
- Improve visual outcome

Acute Retinal Arterial Ischemia

GCA?

>50 yo
IMMEDIATELY:
CBC, platelets
ESR, CRP

4 problems

- Risk of stroke
- Risk of cardio-vascular disease
- Improve visual outcome

Acute Retinal Arterial Ischemia

~~GCA?~~

4 problems

- Risk of stroke
- Risk of cardiovascular disease
- Improve visual outcome

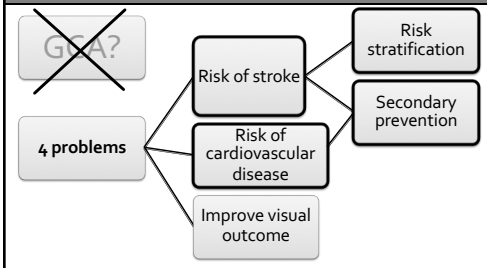
Acute Retinal Arterial Ischemia

~~GCA?~~

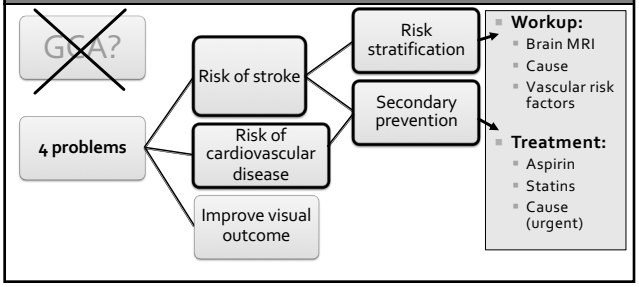
4 problems

- Risk of stroke
- Risk of cardiovascular disease
- Improve visual outcome → ? Thrombolysis

Acute Retinal Arterial Ischemia

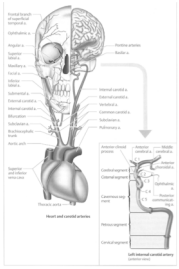


Acute Retinal Arterial Ischemia



Acute Retinal Ischemia (OAO/CRAO/BRAO/TVL)

- **Risk of stroke highest within a few days after visual loss**
- Urgent workup allows immediate identification of major cause associated with highest risk of stroke
  - Carotid atheromatous stenosis
  - Carotid dissection
  - Cardiac source of emboli (atrial fibrillation)



International Guidelines

Stroke

American Heart Association | American Stroke Association

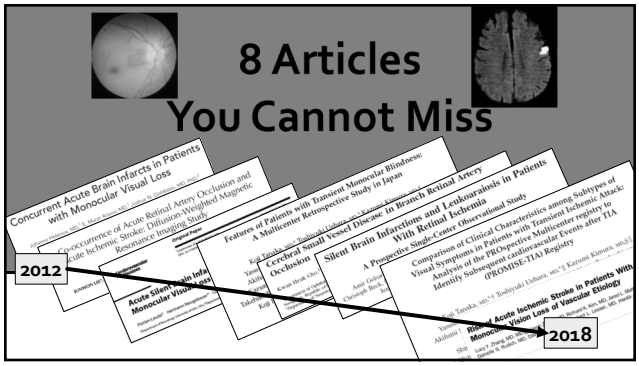
AHA/ASA Guideline

Guidelines for the Prevention of Stroke in Patients With Stroke or Transient Ischemic Attack

A Guideline for Healthcare Professionals From the American Heart Association/American Stroke Association

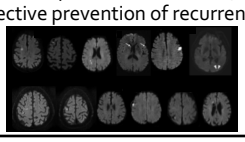
Stroke. 2011;42:227-276; originally published online October 21, 2010;

"Any patient with suspected TIA or those with acute retinal ischemia should be evaluated urgently in order to identify those at high risk of immediate cerebral infarction and cardiac ischemia""



DWI-MRI In Acute Retinal TIA/Ischemia

- Up to 76% CRAO, 31% BRAO, 18% TMVL patients have a positive DWI-MRI
- DWI-MRI identifies a subgroup of patients at very high risk of major stroke
- DWI-MRI needs to be performed within 24/48 hours of visual loss to allow for effective prevention of recurrent stroke



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Management of Acute Retinal Ischemia

Follow the Guidelines!

Valérie Biousse, MD,[1,2] Fadi Nahab, MD,[2,3] Nancy J. Newman, MD[1,2,4]

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Acute retinal ischemia:

CRAO or BRAO = STROKE

Supplementary material available at www.aaoj

GET WITH THE GUIDELINES. STROKE

STROKE STRIKES 785,000 AMERICANS A YEAR. WE HELP YOU STRIKE BACK.

Speeding Stroke Care. Get With The Guidelines® Stroke

American Heart Association | American Stroke Association®

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Acute retinal ischemia:

"TIA" +  **= STROKE**

AMERICAN ACADEMY OF OPHTHALMOLOGY

Protecting Sight. Empowering Lives.™

Retinal and Ophthalmic Artery Occlusions Preferred Practice Pattern®

AAO 2016

Retinal and Ophthalmic Artery Occlusions PPP

HIGHLIGHTED FINDINGS AND RECOMMENDATIONS FOR CARE

An ophthalmic artery occlusion (OAO) or retinal artery occlusion (RAO), central retinal artery occlusion (CRAO), or, less commonly, a branch retinal artery occlusion (BRAO) in patients over 50 years of age should raise immediate clinical suspicion for giant cell arteritis (GCA) or other life-threatening conditions (e.g., carotid occlusive or cardiac valve disease). The clinician should evaluate appropriately and consider the
eye.[1]

Acute symptomatic OphAO, CRAO or BRAO should prompt an *immediate* referral to the nearest stroke referral center for prompt assessment for consideration of an acute intervention

In vascular occlusive disorders of the eye, there is an increased risk for posterior and/or anterior segment neovascularization. The schedule for follow-up visits should consider the extent of retinal or ocular ischemia. Specifically, patients with greater ischemia require more frequent follow-up.

"Act FAST" Campaign

- F FACE DROOPING
- A ARM WEAKNESS
- S SPEECH DIFFICULTY
- T TIME TO CALL 9-1-1

American Heart Association | American Stroke Association®

"Act VFAST" (Very FAST)

- V VISION LOSS — Do you have trouble seeing with one or both eyes?
- F FACE DROOPING
- A ARM WEAKNESS
- S SPEECH DIFFICULTY
- T TIME TO CALL 9-1-1

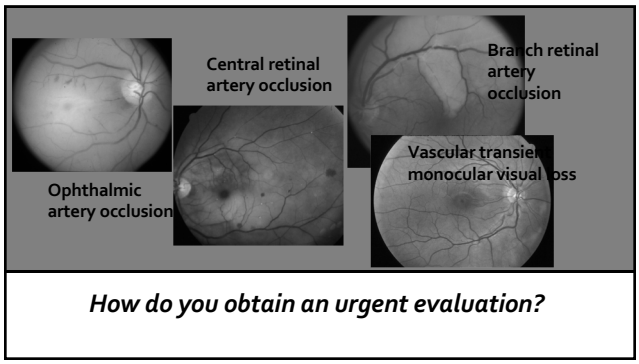
Lawlor M, Perry R, Plant GT. JNNP 2015; 86: 818-820

American Heart Association | American Stroke Association®

"BE FAST"

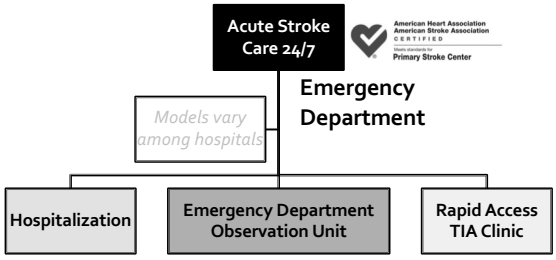
- B Balance — Do you have trouble with your balance
- E Eye — Do you have trouble seeing with one or both eyes?
- F FACE DROOPING
- A ARM WEAKNESS
- S SPEECH DIFFICULTY
- T TIME TO CALL 9-1-1

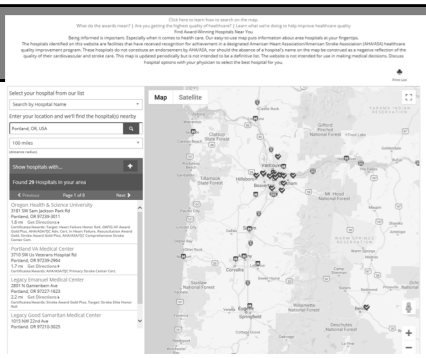
American Heart Association | American Stroke Association®



How do you obtain an urgent evaluation?

Disposition of the patient





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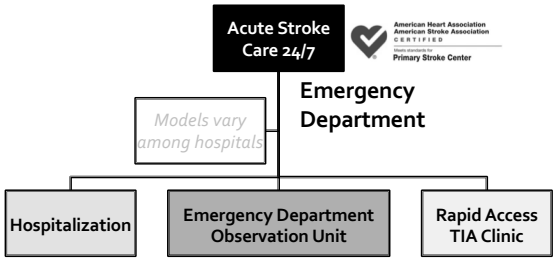


Tell the patient:

- "Go to the Emergency Department"

American Heart Association
American Stroke Association
CERTIFIED
Meets standards for
Primary Stroke Center

- "Tell them you had a stroke in the eye"
- **Do NOT send these patients to their primary care physician, cardiologist, neurologist, retina specialist, neuro-ophthalmologist**
- **Do not try to obtain the workup yourself**

Call the Emergency Department Triage Provider:

- "I am sending you a patient who had
  - A **stroke** in the eye
  - For immediate stroke workup and treatment by stroke neurology"

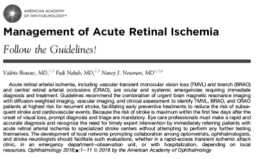
Acute Retinal Ischemia: What to Do?

- Educate and help your colleagues
- Establish a network with closest Stroke Center and local stroke neurologist

- **Simple message:**

1) Make the correct diagnosis

2) Send the patient immediately to a Stroke Center



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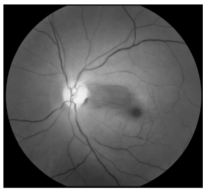
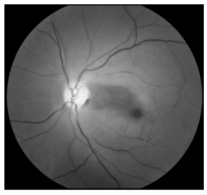
71 yo man

- With acute visual loss in one eye…

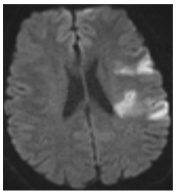


The next 24 hrs in the Emergency Department…

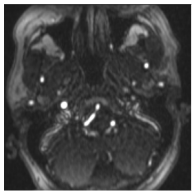
Seen in the Emergency Department
13 hours after acute visual loss
-Normal GCA labs
-No thrombolysis



Cardiac monitoring, observation, brain MRI/MRA, Neurologist, echo
-3 hours later, right hemiparesis and aphasia



Left carotid occlusion and left cerebral (MCA) infarction
-Thrombectomy / thrombolysis
-Good neurologic outcome



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