Is central retinal artery occlusion an ophthalmic or medical emergency?

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I have no financial relationships to disclose

Objectives

Review the epidemiology and pathogenesis central retinal artery occlusion (CRAO)

Provide an update on the American Academy of Ophthalmology preferred practice patterns for management of CRAO

Discuss the burden and outcomes of patients admitted for CRAO

What I learned in residency

CRAO patients at greatest risk of death from myocardial infarction (MI)

Carotid and cardiac imaging is mandatory

Carotid duplex ultrasound and transesophogeal echocardiogram preferred

Temporal/giant cell arteritis must be excluded

CT is more sensitive than MR for imaging acute stroke

CRAO is relatively rare

Incidence 1-2 per 100,000

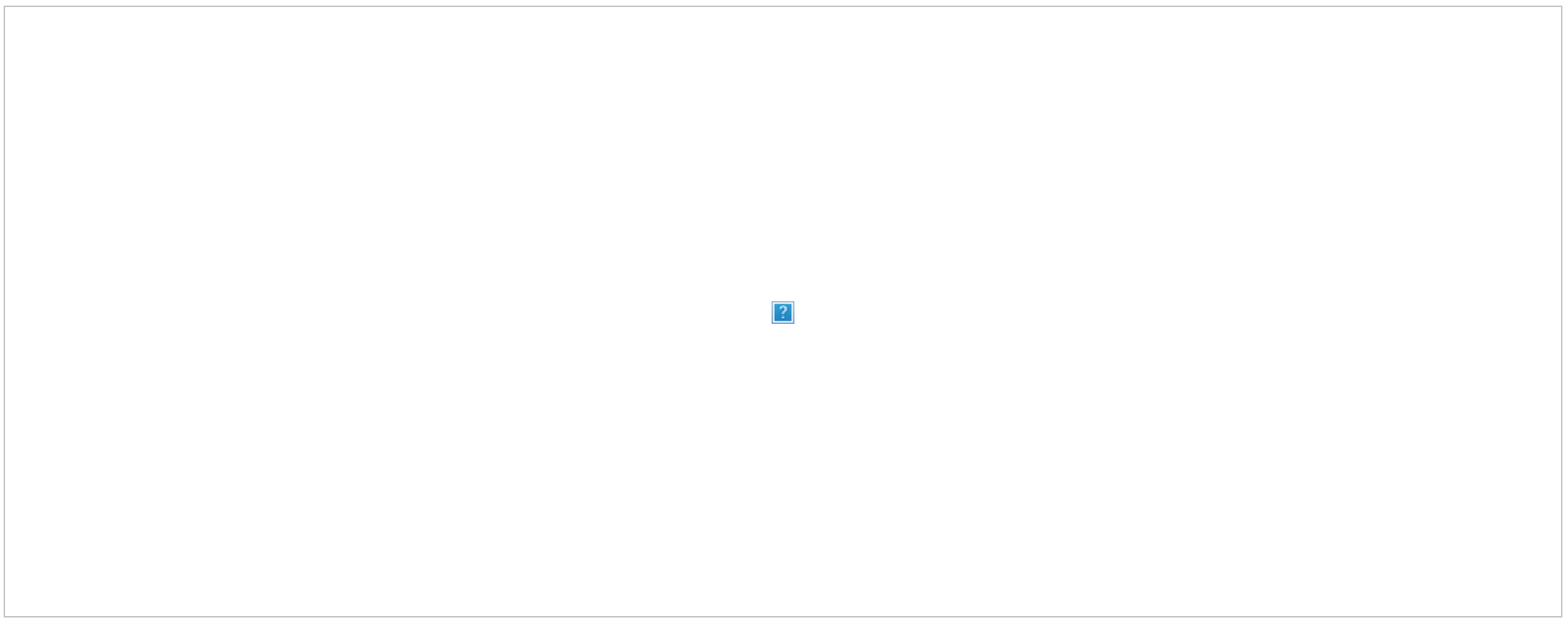
Male>female

Mean age 60-65

86 patients with RAO or Hollenhorst plaque

4-5 fold increase in mortality at 3 years

Cardiovascular disease leading cause of death



Atherosclerotic carotid artery dis
patients with retinal ischemic syn

J.B. Chawluk, MD; M.J. Kushner, MD; W.J. Bank, MD; F.L. Silver, MD; D.G. Jami
T.M. Bosley, MD; D.J. Conway, BS; D. Cohen, MD; and P.J. Savino, MD

Article abstract—The extracranial carotid systems of 105 patients with retinal ischemia were exa ultrasonography with integrated pulsed Doppler. Sixty-four patients had amaurosis fugax (AF), 17 occlusions (CRAO), and 21 branch retinal artery occlusions (BRAO). The prevalence of carotid stenosis ($\geq$ symptomatic eye was low (16%). Eighty-six percent of AF patients had either no plaque or plaque cau stenosis. A significant proportion of subjects with normal duplex scans had alternative explanations for thei migraine, cardiac embolus). Patients with Hollenhorst plaques were more likely to have stenotic or ulcerat The degree of carotid stenosis correlated significantly with the number of vascular risk factors identified in = 0.02). The presence of risk factors was more common in CRAO and BRAO patients compared with the ultrasound-Doppler investigations of the carotid bifurcation are valuable noninvasive tools for the scree retinal ischemia.

What I didn’t learn in residency

Retinal emboli

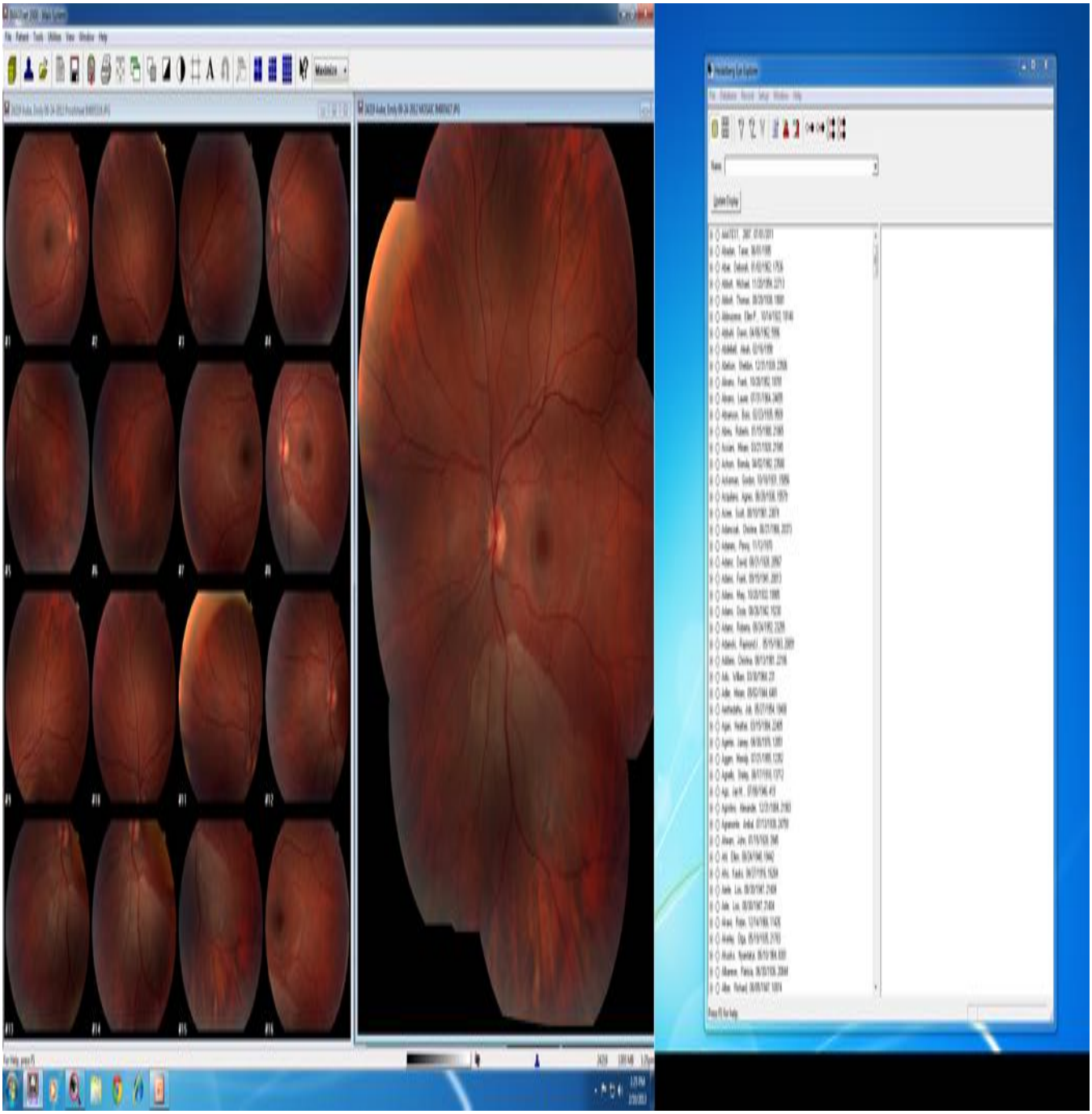
Cholesterol

Calcifium

Fibrinoplatelet

Fat

T alc

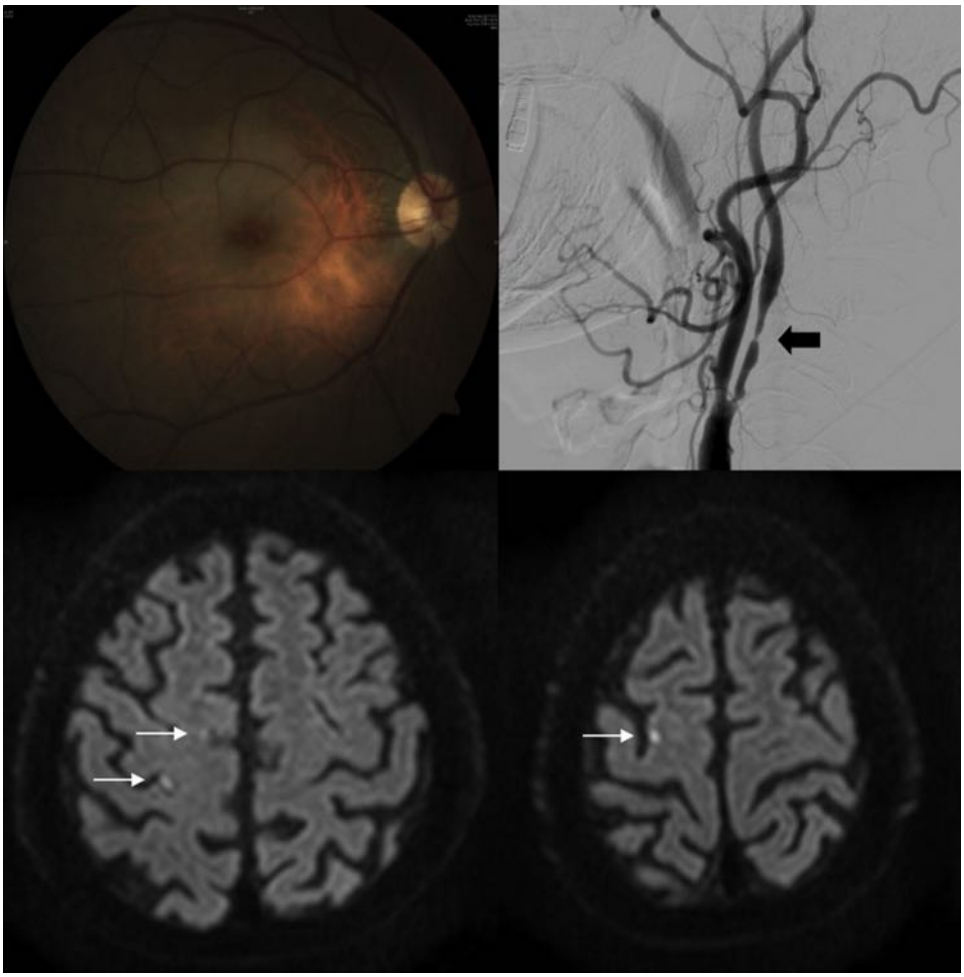


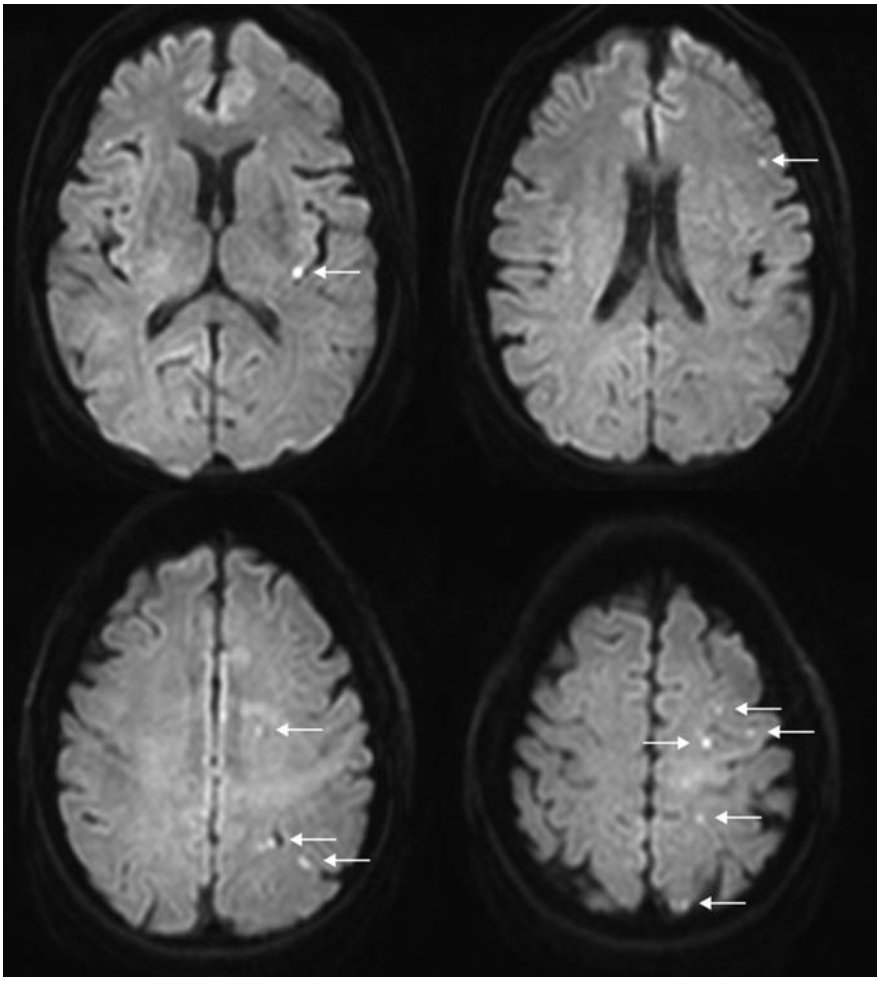
75% of neurologists hospitalize patients with RAO

82% of retina specialists opt for an outpatient work-up

Abel AS et al. Asia Pac J Ophthalmol 2017

Disposition Disparity





Ischemic CVA in 24%

Silent CVA in 37%

Small

Multiple

Scattered

AJO 2014

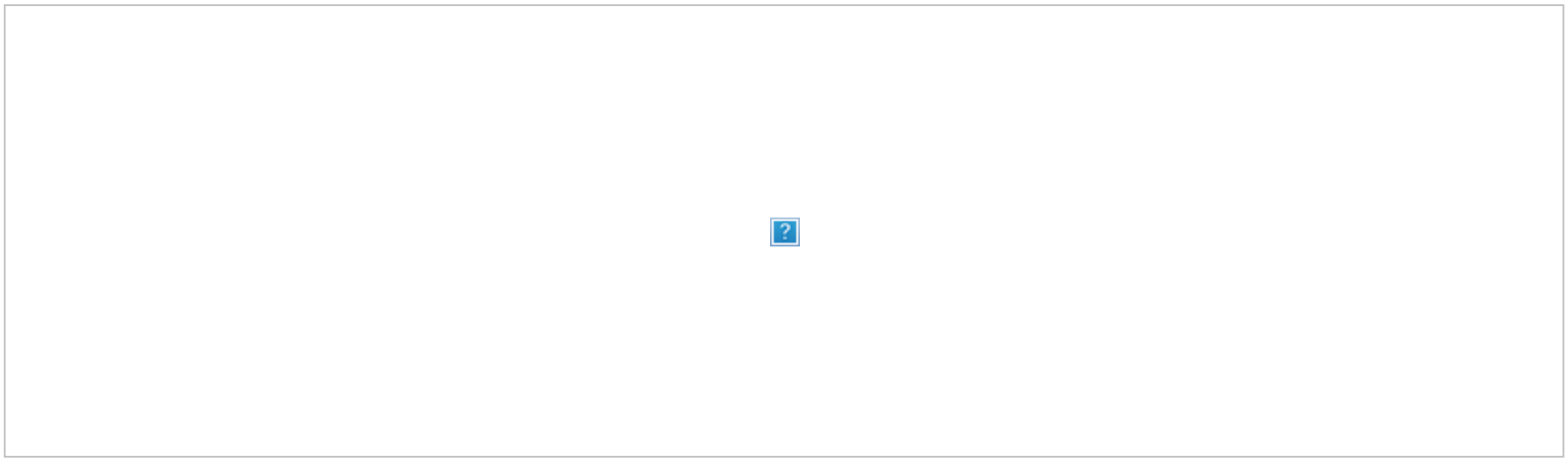
National Inpatient Sample (NIS)

Part of the Healthcare Cost and Utilization Project (HCUP)

Largest all-payer inpatient database in the United States

20% stratified systematic sample of all U.S. hospitals

AJO 2019;200:179-186

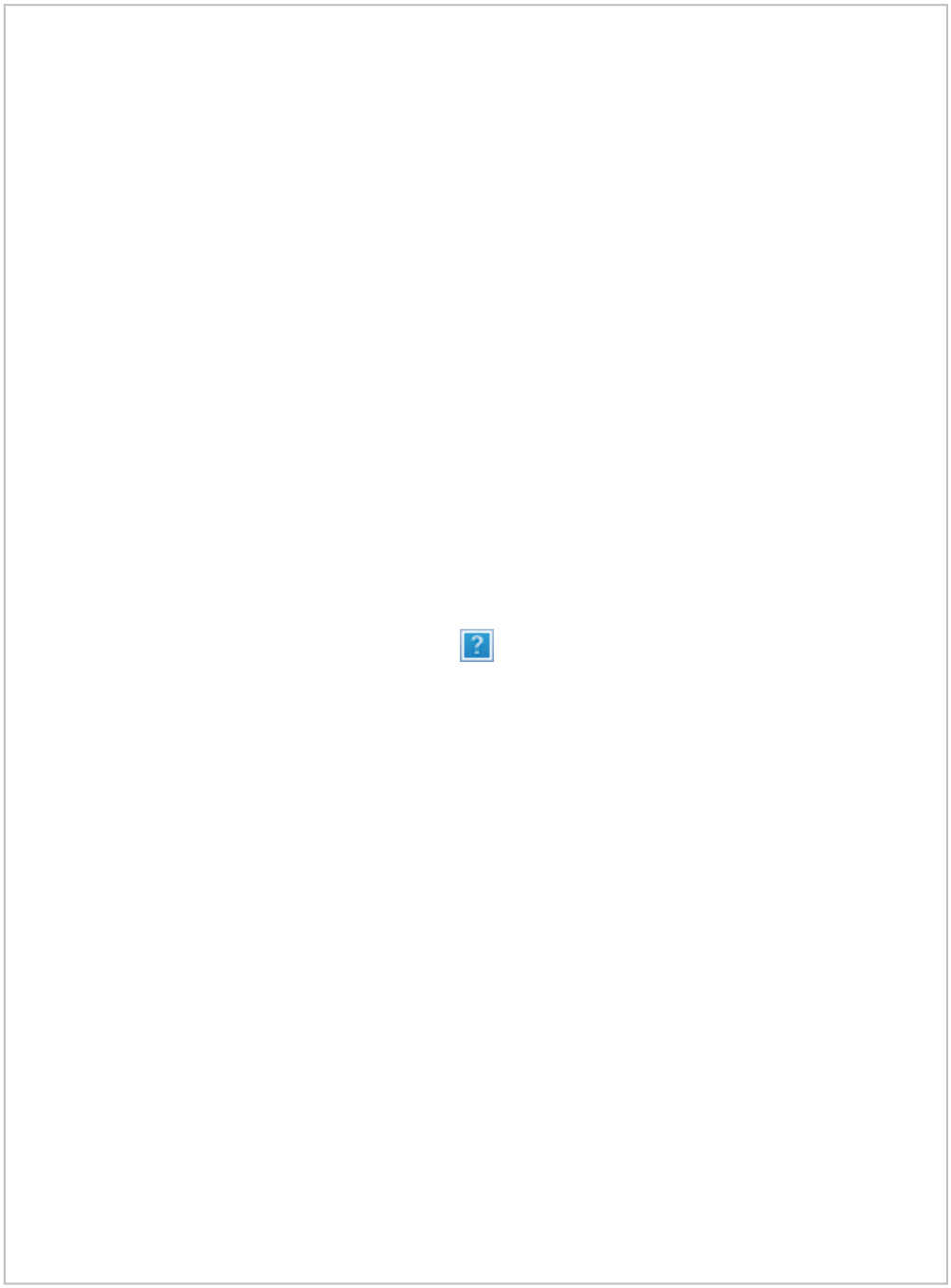


8 million hospital discharges

98% of U.S. population from 44 participating states

17 117 inpatient admissions for diagnosis of CRAO

AJO 2019;200:179-186



Acute retinal ischemia is the new paradigm

Transient vascular monocular vision loss and RAO are on the spectrum of the same disease

“The outdated belief that acute retinal ischemia is of less concern than cerebral ischemia (and therefore may not need emergent care) must be revisited. It is time for a change in practice among eye care professionals.”

Follow the guidelines!

Conclusions

The cumulative incidence of TIA, CVA, MI and death for CRAO admissions is nearly 20%

CRAO is both an ophthalmic and medical emergency

Emergent referral is indicated for all acute retinal ischemia patients