Sudden Painless Monocular Vision Loss

UHN EMERGENCY CONFERENCE 2022
TIM STEWART, NURSE PRACTITIONER, STROKE TEAM

Case of Mr. J

21-year-old male

PMHx: R. CRAO/blind R.eye (no clear etiology found), smoker, cannabis, sickle cell trait

Meds: ASA 81mg plus Rivaroxaban 2.5mg BID – NON-COMPLIANT

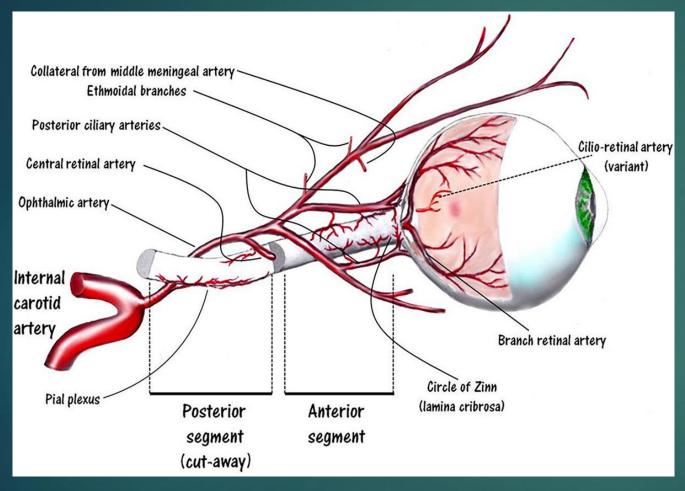
Presented to ED at another hospital after sudden painless vision loss L. eye – Last known well 3:40am

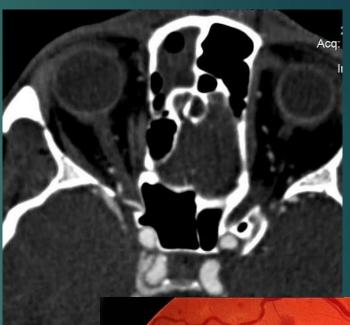
Discharge home to f/u O/P Ophthalmology later that morning – called GP and told to come to TWH

Presented to ED TWH 11:30am and a Code Stroke was initiated. NIHSS 3 for visual field loss

Ophthalmology STAT consult: cherry red spot detected, RAPD – Dx: Left eye CRAO

Central Retinal Artery Occlusion





History / Differential

History

Cover test – 1 eye or both

Pain – no? or yes?

Speed – sudden/fairly static or progressive, LAST KNOWN WELL

Other – vascular risk, CA, auto-immune

Exam

Visual acuity

Visual fields

RAPD

Retina/optic disc exam



Investigations / Consults

Investigations	Consults
CBC	STAT assessment by ED MD/NP/PA
Basic metabolic panel	STAT consult to OPHTHALMOLOGY
Coags	Heads-up to stroke service
ESR	
CRP	

Funduscopic photography

CT Head / CT angiogram carotids

Etiology





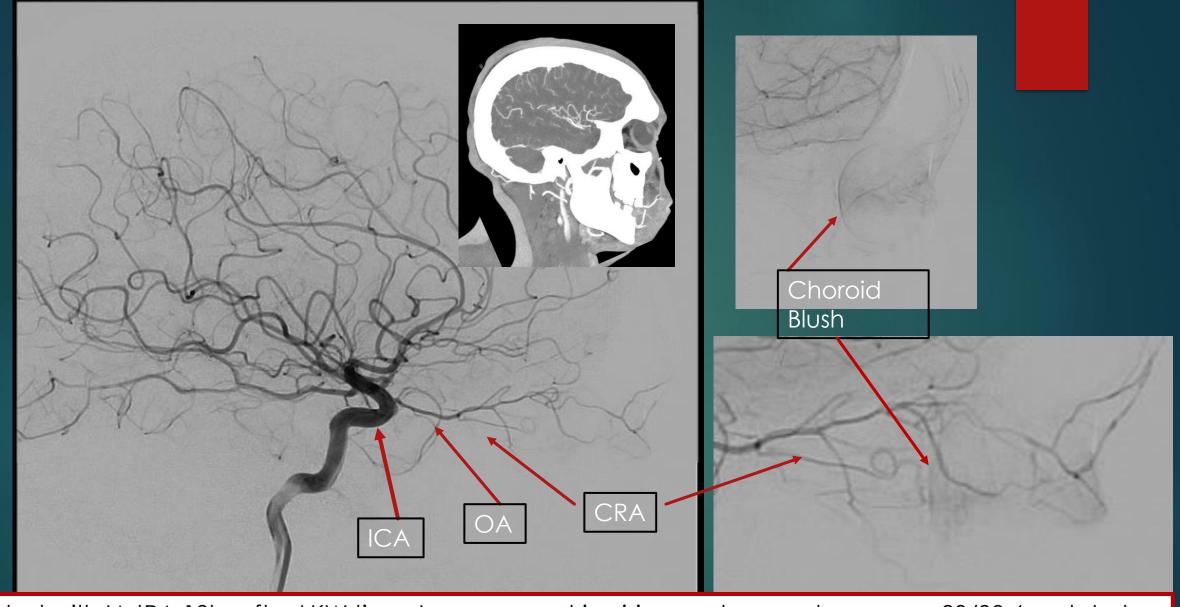
Fundoscopic Photography





Acute Treatments

Treatment	Efficacy	
Ocular massage		Lack evidence
Anterior chamber paracentesis		and possible harm so not part of any
Hemo-dilution		guidelines
Hyperbaric oxygen		
Acetazolamide		
Alteplase	~50-55% recovery	LKW less than 4.5hr
Tenectoplase	? Similar to tPA/better	LKW less than 4.5hr
Intra-arterial Alteplase	? Not enough evidence	? LKW less than 6.0hr Case by case
No treatment	~17% recovery	



Treated with IA tPA 13hr after LKW time. Improvement in vision post procedure – now 20/30 6mo later!

Care Algorithm

Sudden severe monocular vision loss Triage to ED for STAT ophthalmological exam by MD/NP/PA (or fundus photography via Teleophthalmology), ophthalmology consult Exclude GCA (ESR/CRP/temporal palpation)

Consider other causes of acute vision loss: Retinal detachment, intraocular hemorrhage, optic neuropathy

Targeted medical/surgical therapy based on underlying disease process

ED Triage RN pages Stroke Team to give them "heads up"



CRAO

Code Stroke
Protocol
Through Stroke Team
CT/CTP/CTA/delay
Last known well,
screen for
contraindications
tPA

tPA (Alteplase)
within 4.5hrs LKW

Consider IA tPA within 6.0hrs LKW or other factors

Modified from AHA Scientific Statement: Management of CRAO. MacGrory et al.

Pearls!

