Workup Following Retinal Artery Occlusion? Experience from an Outpatient Retina Clinic

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Purpose:
Acute retinal artery occlusion (RAO) is an urgent ophthalmic condition often indicative of ischemic or inflammatory pathology. Patients diagnosed at outpatient facilities must then independently present to an emergency department (ED) or primary care clinic to obtain the necessary systemic workup. We review compliance and timeliness in completing the required testing.

Methods:
A retrospective chart review was conducted from June 2009 to January 2019 at a tertiary, multiple-physician vitreoretinal practice (The Retina Institute, St. Louis, MO). All patients presenting with an acute (<2 week duration) symptomatic RAO were included. Each patient’s age, presenting vision, year of diagnosis, co-morbidities, type of occlusion (branch vs. central), and evidence of emboli on exam were recorded. Documentation of carotid vasculature and echocardiographic imaging was requested from the patient’s primary care physician (PCP), cardiologist or neurologist. Time to workup (TTW) from RAO diagnosis to receiving appropriate workup and site of workup (ED vs. outpatient setting) was recorded.

Results:
One hundred forty-seven patients (mean age 72.5 ± 11.2 years) were included. Acute symptomatic BRAO or CRAO was found in 85 (57.8%) and 62 (42.2%) patients respectively. The mean duration of visual symptoms was 5.35 days (0.405 STDM, range 0-14 days). A total of 132 (89.8%) patients were documented as having completed at least one type of cardiovascular or carotid imaging. Seventy-seven patients (52.3%) were documented to have completed both carotid and echocardiographic imaging. Following RAO diagnosis, 97 (66.0%) patients were referred to an outpatient facility while 35 (23.8%) were evaluated at an ED. Mean TTW through an ED setting vs. outpatient was 2.20 days (1.10 STDM, range 0-29) vs. 13.6 days (2.23 STDM, range 0-149) respectively (p=0.003). Duration of symptoms upon presentation was found to be significant to testing location as patients sent to an ED vs. outpatient setting had a mean duration of 3.23 (±.603 STDM) vs. 6.12 (±.532 STDM) days of symptoms, respectively (p=0.003).

Conclusions:
Our study gives objective data to the delay suspected in referring patients with acute symptomatic RAO for outpatient workup. We recommended all outpatient ophthalmology and retina practices establish a relationship with a comprehensive or primary stroke center to facilitate urgent testing through an emergency department.