Stroke of the eye

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28/M chronic smoker and alcoholic since 10 years with no known systemic illness came to OPD with

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- c/o sudden loss of vision in the right eye since 1 day which he noticed on getting up from sleep not associated with any pain
- No history of similar complaints in the past
- No history of breathlessness, palpitations
- No significant past history
- No significant family history

On examination:

- Patient is young aged male, moderately built, conscious, cooperative and well oriented to time, place and person

- Patient is vitally stable

•Left eye – WNL

•Intraocular pressure: (Goldmann's applanation tonometry)

(BE) 16mmhg

Right eye:

•Vision: perception of light+

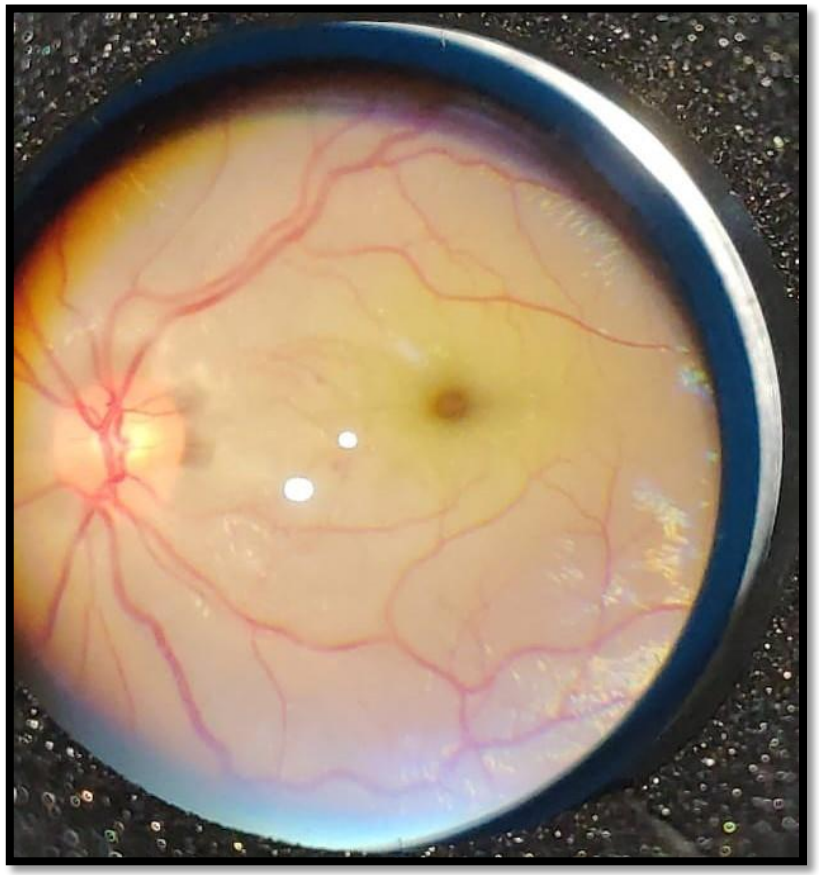
projection of rays inaccurate in all quadrants

•Pupil: central/circular/Grade 2 RAPD (relative afferent pupillary defect)

•(LE) Fundus

Pale Disc

Narrow Blood Vessels



Cherry Red Spot

Pale fundus

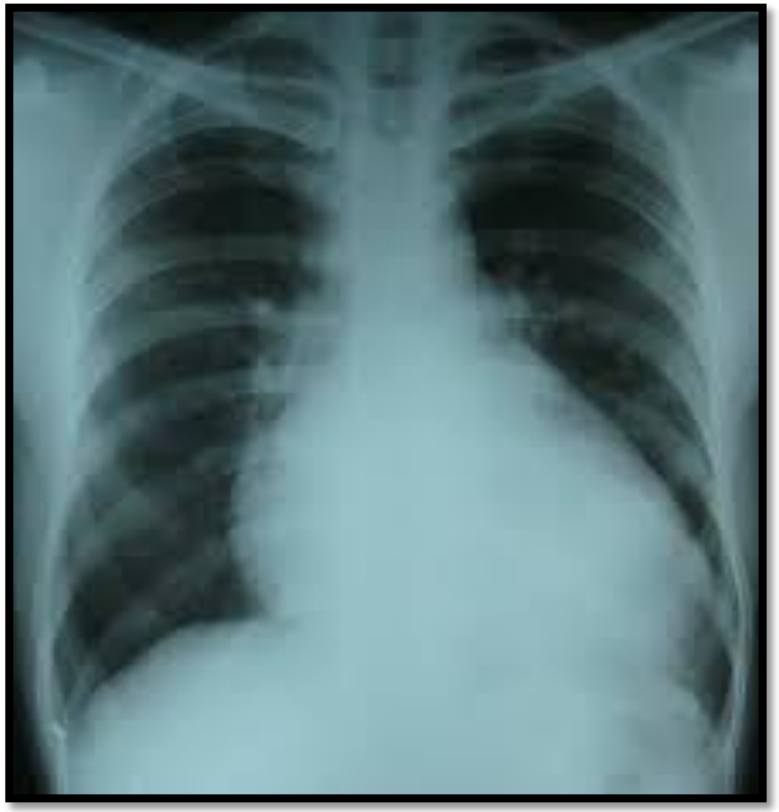
Provisional clinical diagnosis

Central retinal artery occlusion right eye

Patient was referred to department of general medicine for detailed cardio vascular examination to find out the underlying cause of **CRAO**

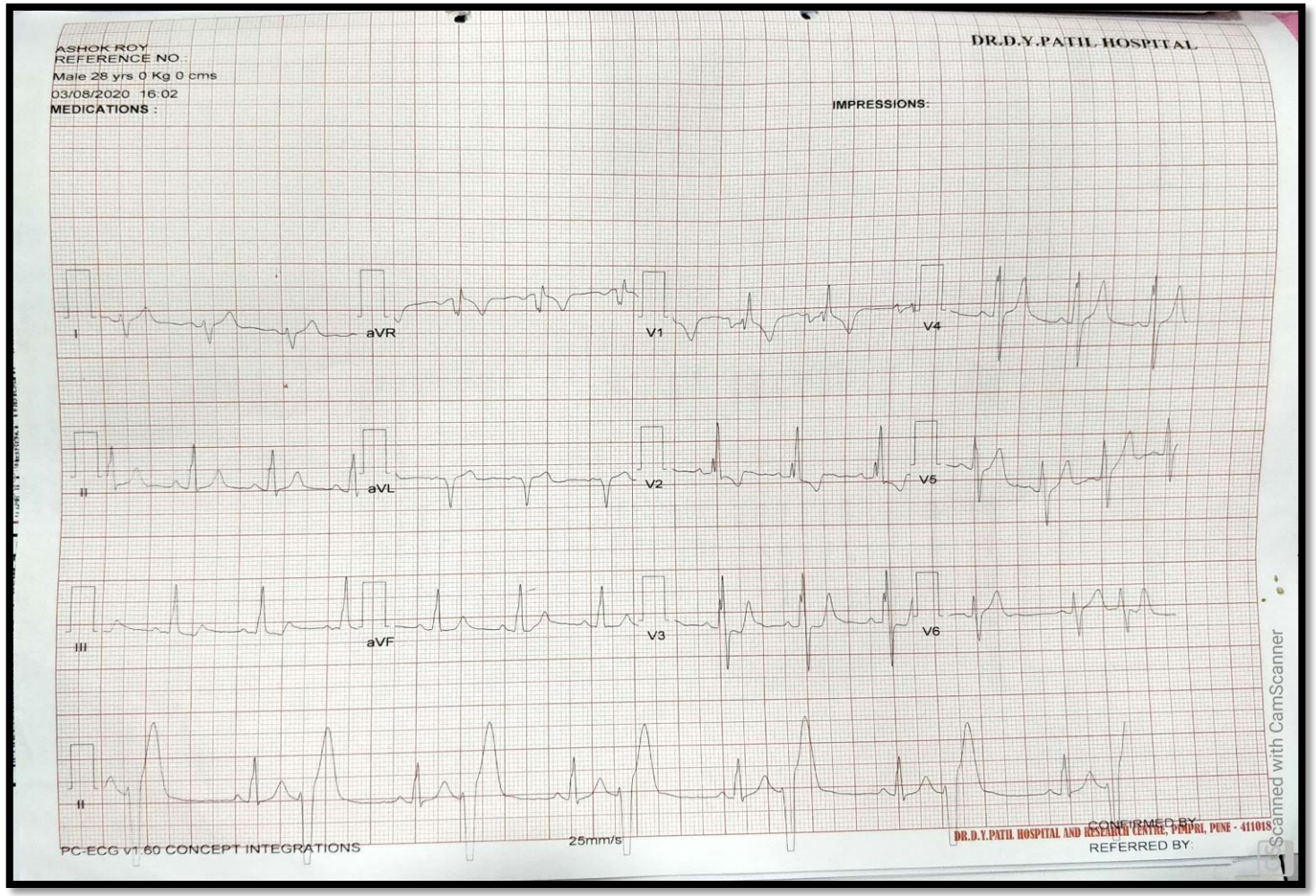
- **Chest X-ray :**

Cardiomegaly
Multiple calcified hilar lymph nodes



•ECG:

Right bundle branch block



Investigations:

- **Blood investigations**: **WNL**
- **MRI** : **No abnormality detected.**
- **MR Angiography** : **No abnormality detected.**
- **Carotid Doppler** : **Normal study**

2D ECHO

- Large ostium secundum ASD (26mm)
- L --------> R Shunting seen
- Mild PAH (pulmonary artery hypertension)

Final Diagnosis

Central Retinal Artery Occlusion (CRAO) Right eye with Atrial Septal Defect (ASD)

Treatment Given

- Digital massage was done over the globe for 15 mins.
- Compression of globe with indentation 4 mirror gonioscope was done.
- Tab. ACETAZOLAMIDE 250mg with Syp. KCl 10 ml 1-1-1
- Tab. ASPIRIN + ATORVASTATIN (75mg + 10mg) 0-0-1 HS
- E/d Timolol 0.5% 1-0-1

Patient Progression

- The patient was given the previous treatment in the hospital for 3 days.
- There was no improvement in visual acuity.
- There was no further progression of the condition.
- He was advised medical management initially followed by a surgical intervention at a later date for the underlying ASD

Discussion

- CRAO, Similar to other vascular disorders the condition is largely seen in older adults, but it has been reported in children and young adults also.
- Age of presentation is 50-60 years
- Men >> female
- Usually unilateral condition, B/L in 2% of the cases reported

- Thrombotic (GCA, polyangitis nodosa, migraine)
- Embolic (atheromatous carotid plaque)
- Arrhythmias
- Mitral valve prolapse
- Hyperhomocysteinaemia
- Anti-phospholipid antibody syndrome
- Microangiopathies

F/U should be done by an ophthalmologist after 3-4 weeks and again a month later to detect any neovascularization in the anterior segment

Take Home Message

- Commonly referred as stroke of the eye, Central retinal artery occlusion not only is an ophthalmic emergency but also serves as a Pandora's box for other life threatening conditions.

- The time of presentation is extremely important in the prognosis of improvement in visual acuity.(initial 90-100 minutes)

- There is no specific treatment recommended for the condition although multiple treatment modalities have been tried.

- COVID 19 which is considered to be a septic hypercoagulable condition should also be investigated for.

- Paradoxical embolism in an undetected congenital heart disease is likely to be the pathogenic feature in this case.

CRAO associated with ASD : A CASE REPORT (The Journal of Lumbini Medical College) vol.7.no.1 (2019)

- A thorough CVA evaluation and evaluation for an acute myocardial infarction should always be done in a case of CRAO.

References

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THANK YOU