

# Central retinal artery and Common Carotid artery occlusions following COVID-19 infection: A case report

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33-year-old ♀

Hospitalization for  
severe COVID-19  
infection

Admitted with  
headache, dizziness,  
blurred vision, nausea,  
vomiting

Free POH & PMH

Not on medications or  
contraception

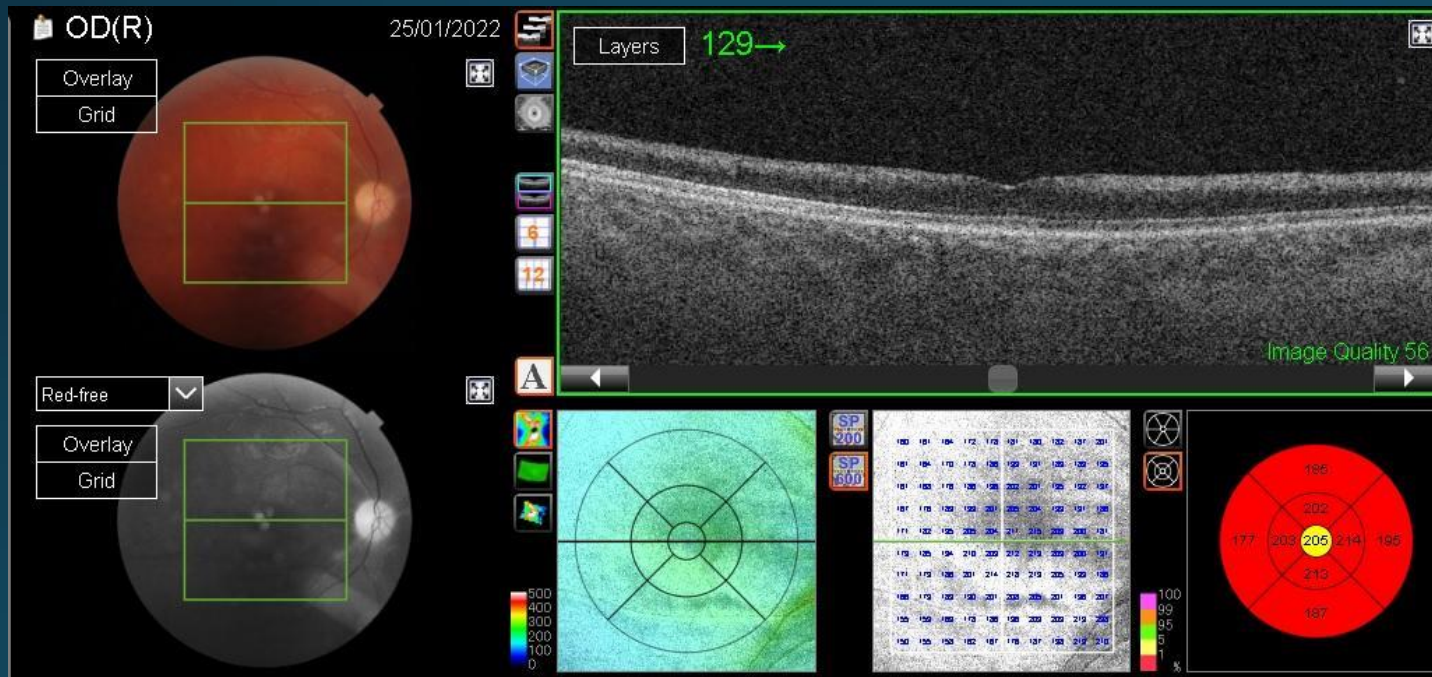
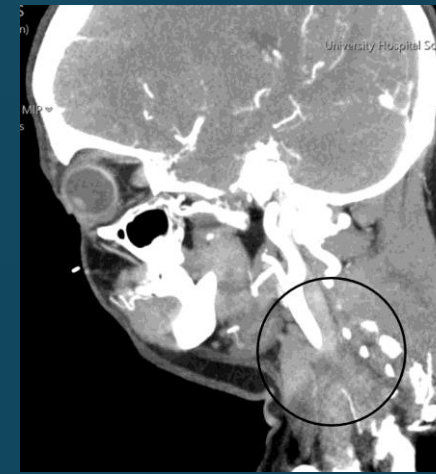
Never pregnant

Her mother: DVT

ECG changes:

Sinus bradycardia  
Inverted T wave

- Brain CT findings:
  - Dural venous sinus thrombosis (superior sagittal sinus, left transverse sinus)
  - Acute infarct in right parietal lobe
  - Patchy opacification of cavernous sinus bilaterally
- CT angiogram findings:
  - Occlusive thrombus in right common carotid artery (below bifurcation to internal and external carotid arteries)



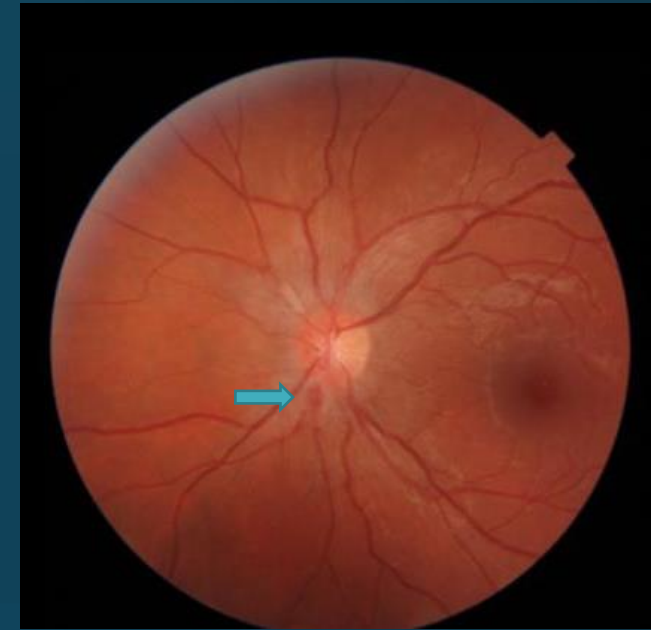
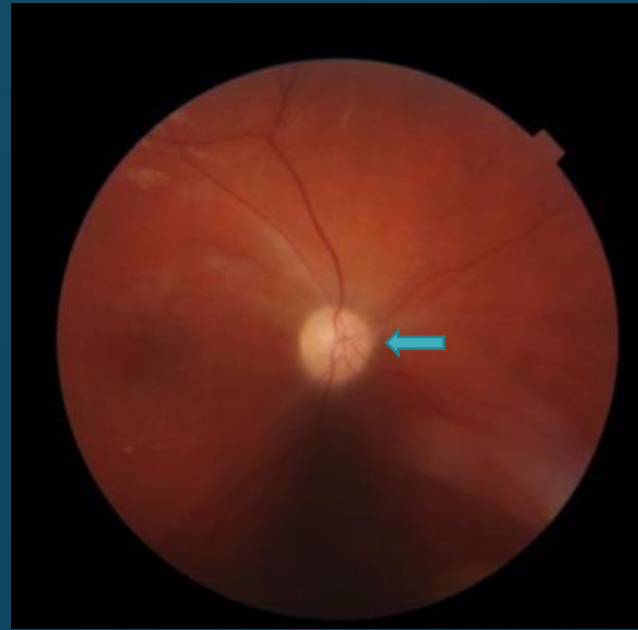
### Ophthalmological Findings:

- Initial Examination (4 days post-admission):
  - Visual Acuity (VA): Right eye - no light perception, Left eye - 20/30
  - Right afferent pupillary defect
  - Dilated funduscopy:
    - Central retinal artery occlusion (CRAO) in right eye with cherry-red spot
    - Left eye normal

Genetic analyses for coagulopathy risks: *JAK2 v617F*, *MPL*, *CLAIR*, *JAK2*  
No evidence of pathological variants found

## One week post-discharge Examination:

- VA: Right eye - hand motion, Left eye - 20/20
- Chronic CRAO in right eye
- Optic disc edema in left eye with peripapillary haemorrhages (papillophlebitis)
- Optical Coherence Tomography (OCT) - dry maculae in both eyes
- Visual field assessment - scotomas primarily along nasal field



Our patient was a female devoid of any identified risk factors or underlying medical conditions. Notably, she experienced a significant thrombotic event within the common carotid artery at the time of presentation, occurring approximately two weeks following the initial infection, leading to a CRAO.

She was initiated on anticoagulant therapy utilizing warfarin, a regimen that has been maintained since her discharge. This therapeutic approach aims to mitigate the risk of potential future coagulopathies or thrombotic incidents.

### Conclusion

This case illustrates that COVID-19 can cause thrombosis in both large arteries (common carotid artery) and veins (dural vein). This can present as a CRAO. Interestingly despite having these complications of COVID-19 the patient is still refusing to be vaccinated against COVID-19. It is important to educate patients of the benefits of vaccination particularly with unsubstantiated negative press which as in this case deter vaccination with devastating consequences.