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Paracentral Acute Middle Maculopathy PAMM “An OCT Based Diagnosis”

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Our Case

- Female patient, 60 years old.
- C/O: she came to outpatient clinic complaining of sudden drop of vision in her right eye with scotoma.
- Medical Hx: Type 2 DM , HTN , Cardiac & on Renal Dialysis.
- Ocular Hx: Irrelevant.



Examination

- BCVA: 0.3 OD , 0.8 OS
- Pupils: RRR in both eyes
- AS: Free
- IOP: 14 OD , 12 OS
- Fundus Ex: Rt Multiple white parafoveal lesions with some sort of arterial attenuation while Lt eye was completely free



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Provisional Diagnosis

Rt-sided ischemic insult for further investigations:

- CRAO or Cilioretinal Art Occlusion “VA is 0.3”
- AION “ON free, also VA 0.3”
- Vein occlusion “but fundus ex is not suggestive”
- WDS may be ?
- Another diagnosis !

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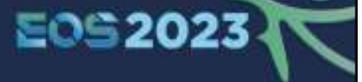
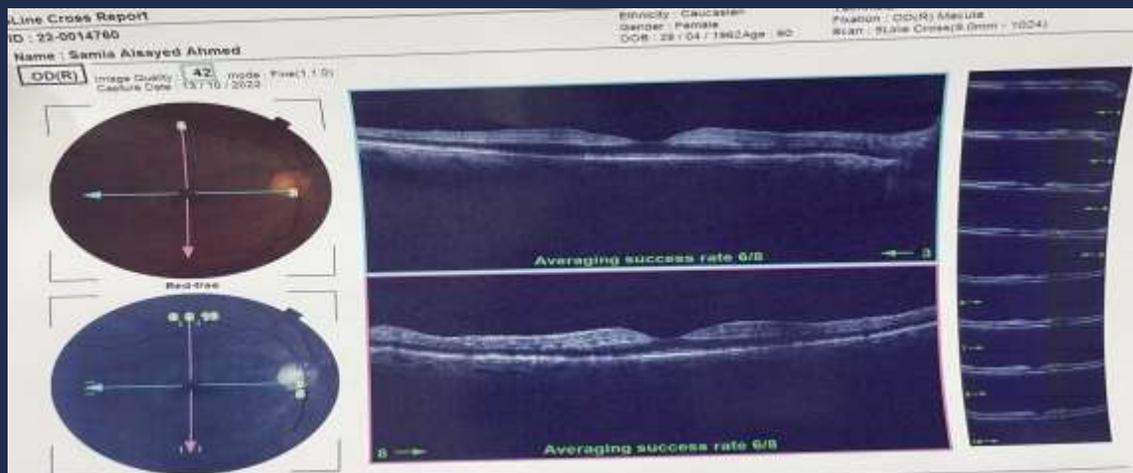


Investigations ordered

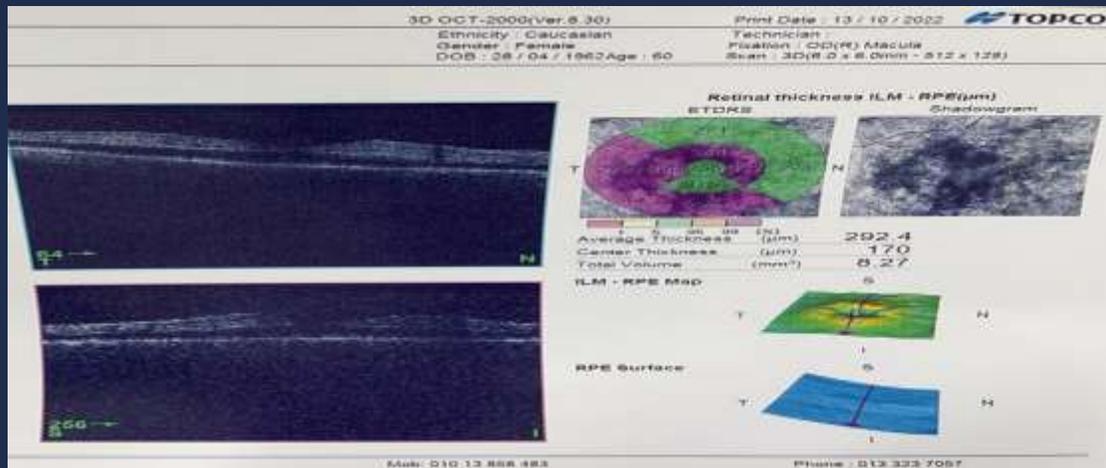
- OCT Macula
- OCT Angiography
- FFA was difficult due to renal insult
- We decided to look for OCT & OCT Angiography then order further ERG if needed



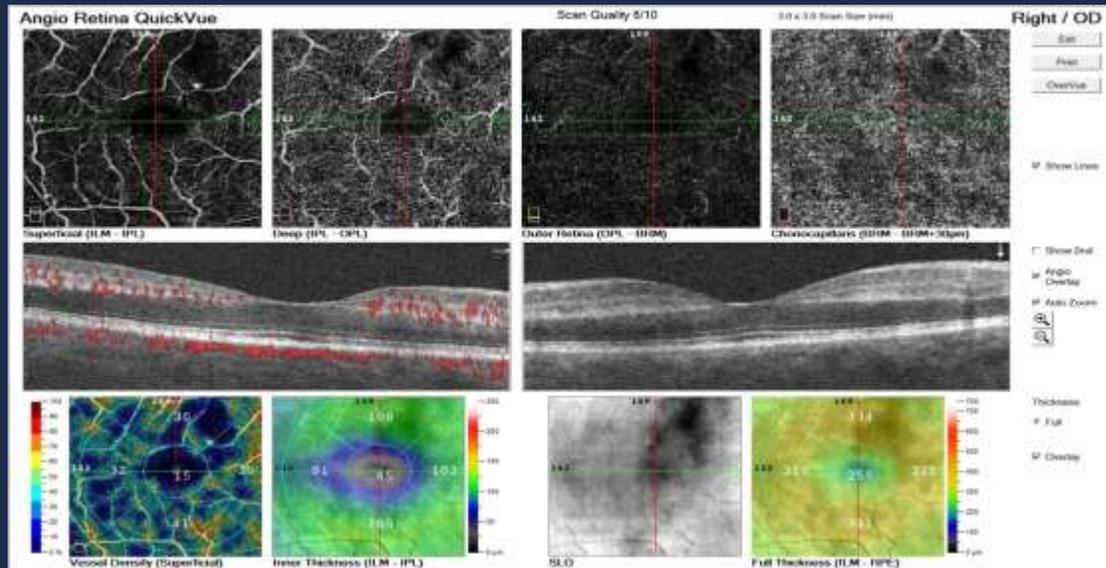
OCT : Parafoveal hyporeflective lesions in NIR with corresponding band-like hyperreflective lesions at the level of INL in SD-OCT



CMT 292 um

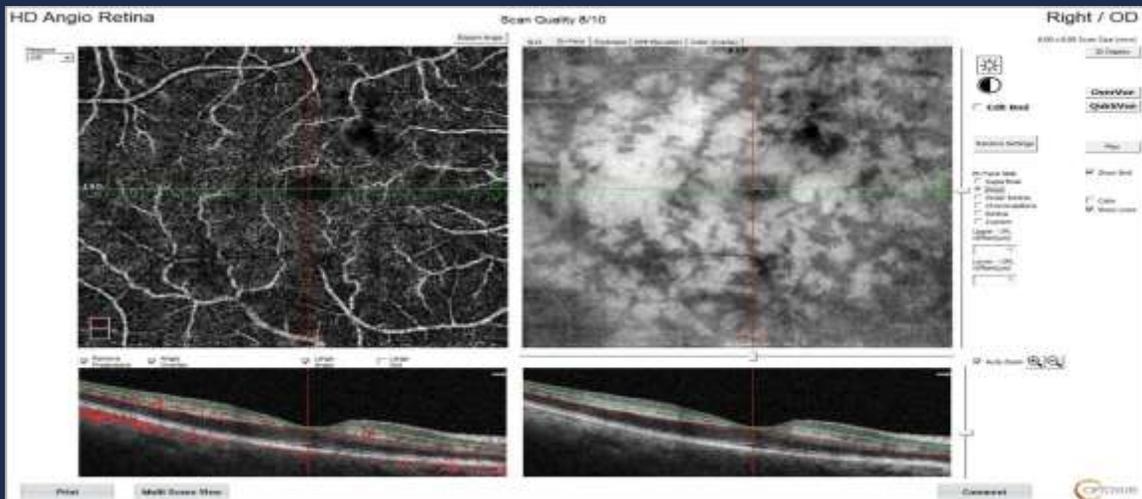


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En Face OCT Angio: Peri-venular Fern Like Pattern (Ischemic Insult)



PAMM was diagnosed based on OCT & OCT Angiography data

Management

- Patient was referred to internal medicine ,cardiology & nephrology specialists for control of Blood sugar , Blood pressure , Renal state & further systemic work-up.
- 2 months later vision in right eye improved to 0.6

- PAMM is an SD-OCT finding first reported in 2013 as variant of Acute Macular Neuroretinopathy (AMN).
- It is characterized by hyperreflective band-like, multiple or isolated focal or diffuse lesions visible at the level of INL.
- It was termed PAMM due to parafoveal position of the causative grey lesions.



Etiology

- The etiology is unknown “vascular etiology was hypothesized”
- Localized retinal capillary ischaemia at the level of intermediate plexus is proposed as the main mechanism underlying the development of these lesions.



Risk Factors

- Environmental risk factors such as vasopressor exposure (e.g., caffeine, vasopressors, oral contraceptives) has been proposed.
- PAMM has recently been associated with numerous retinal vascular diseases including Diabetic Retinopathy, Hypertensive Retinopathy, Sickle Cell Retinopathy, Purtscher Retinopathy, CRVO, and RAO.



Diagnosis

- To date SD-OCT imaging remain the most sensitive diagnostic tool.
- En-face OCT and OCT-angiography have recently emerged as promising tools in the diagnosis and management of these patients.



Differential diagnosis

- The main differential diagnosis is Acute Macular Neuroretinopathy which affect OPL and ONL.
- Acute Macular Neuroretinopathy is a much more rare entity (less than 100 reported cases in English literature in the last 40 years) and typically affects a young healthy woman in their teens-30's.



Take Home Message

- OCT & OCTA may be the only tools for diagnosis of some ocular diseases.
- Many ocular disease are associated with hidden systemic conditions.
- The least invasive investigational tool has usually the priority over other invasive tools.



THANK YOU

