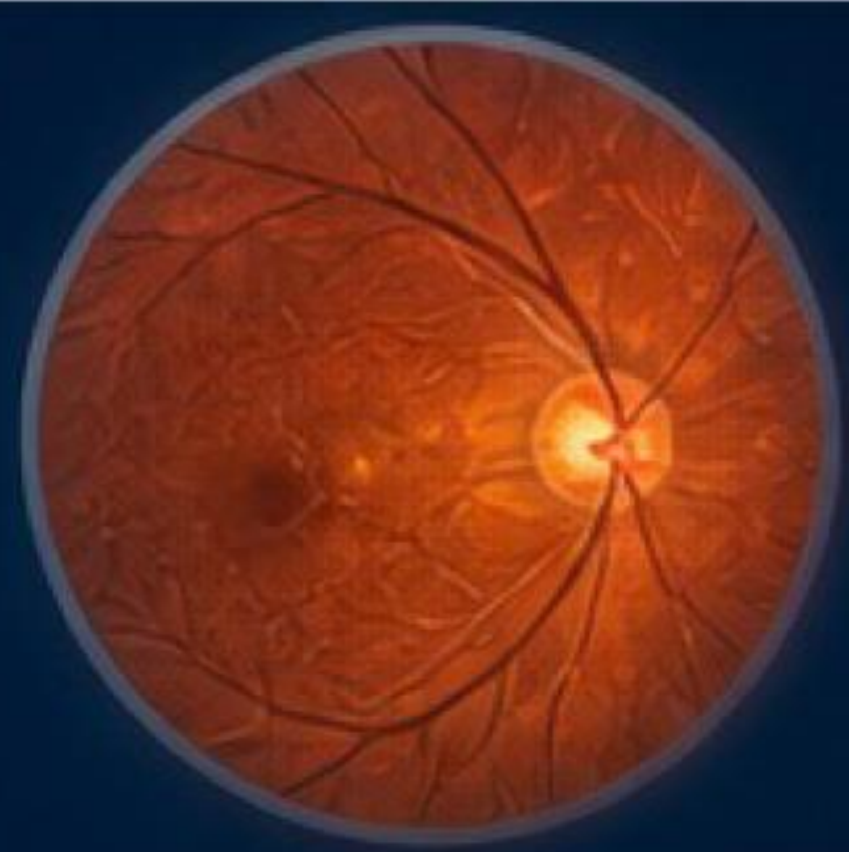




Reducing Misdiagnosis of Retinal Angiomatous Proliferation as Branch Retinal Vein Occlusion: Clinical Insights and Diagnostic Strategies

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INTRODUCTION

Retinal angiomatous proliferation (RAP) is a subtype of neovascular age-related macular degeneration (nAMD) that can present with intraretinal haemorrhage, retinal oedema, and exudation. These features often overlap with branch retinal vein occlusion (BRVO), leading to misdiagnosis and potential delays in initiating appropriate anti-VEGF therapy.

Misclassification may result in suboptimal management and poorer visual outcomes.

This abstract highlights common diagnostic pitfalls and proposes strategies to improve recognition of RAP.



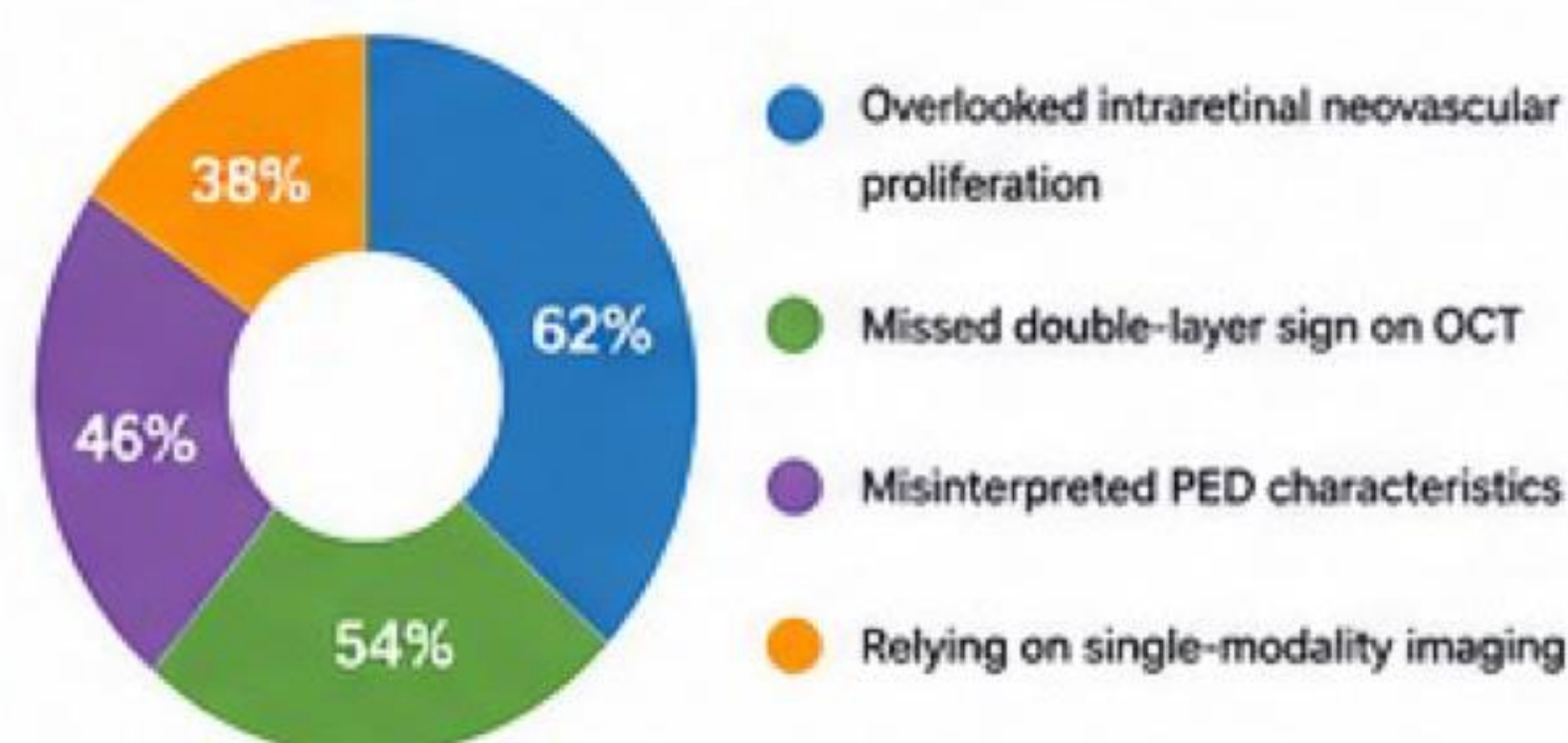
AIMS

- Identify common imaging features that lead to misdiagnosis of RAP as BRVO
- Propose diagnostic strategies to improve recognition of RAP
- Develop practical interventions to reduce misdiagnosis and improve patient outcomes

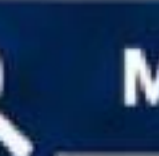


RESULTS (Preliminary Observations)

Among cases reclassified as RAP (n=XX)*



*Data ongoing



METHOD



A retrospective review of patients initially diagnosed with BRVO, but later confirmed as RAP.



Multimodal imaging analysis including OCT, OCT angiography (OCTA), and fluorescein angiography (FA).



Key distinguishing features analysed:

- Intraretinal neovascular networks
- PED characteristics
- Subretinal/intraretinal fluid distribution
- Double-layer signs

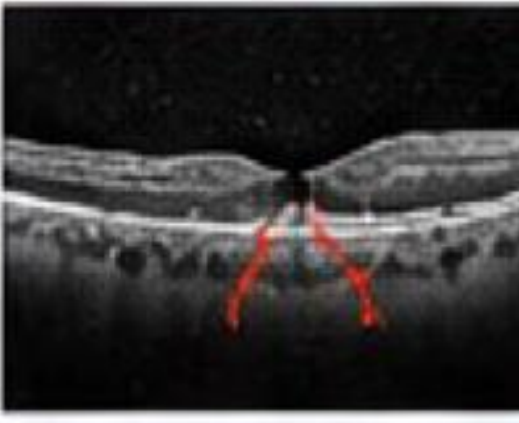
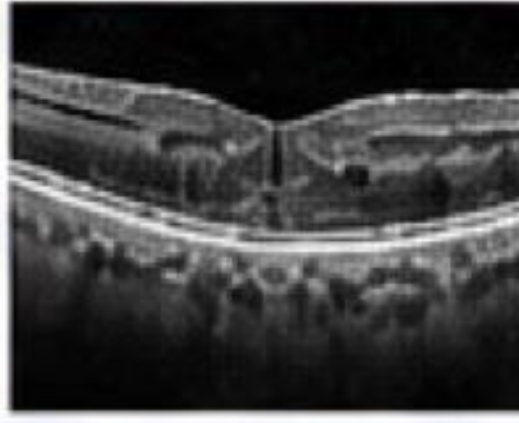
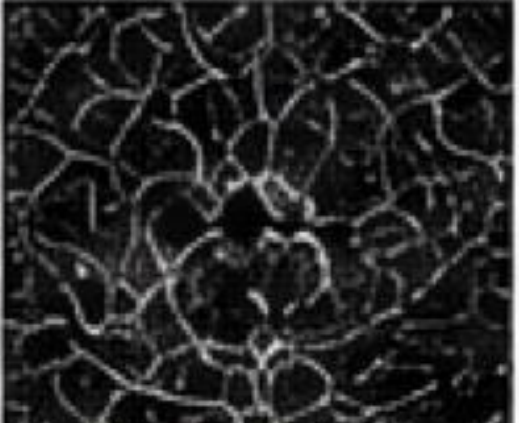


Proposed interventions:

- Imaging-based diagnostic checklist
- Standardised reporting templates
- Targeted training for ophthalmologists

RAP vs BRVO: KEY DIFFERENTIATING IMAGING FEATURES

RETINAL ANGIOMATOUS PROLIFERATION (RAP)

Colour Fundus	 - Subretinal/intraretinal haemorrhage - Yellow-white exudates - Often juxtafoveal	 - Flame haemorrhages along the distribution of the vein - Cotton wool spots - Macular oedema
OCT	 - Intraretinal hyperreflective neovascular network - Double-layer sign - PED (often steep, irregular) - Subretinal ± intraretinal fluid	 - Diffuse retinal thickening - Cystoid spaces - Usually no double-layer sign - No neovascular network
OCT Angiography	 - Intraretinal neovascular proliferation - Complex tangled vascular network - Flow above RPE	 - Capillary non-perfusion - Dilation and tortuosity of retinal veins - No neovascular network
Fluorescein Angiography	 - Early lacy vascular network - Late leakage - Hot spot / plaque hyperfluorescence	 - Delayed venous filling - Diffuse leakage - Capillary non-perfusion
Key Clues	Neovascular network, double-layer sign, typical RAP vascular pattern, PED	Venous dilation/tortuosity, widespread retinal haemorrhages in venous distribution, capillary non-perfusion



CONCLUSION

Accurate differentiation between RAP and BRVO is critical for optimising treatment and visual outcomes.

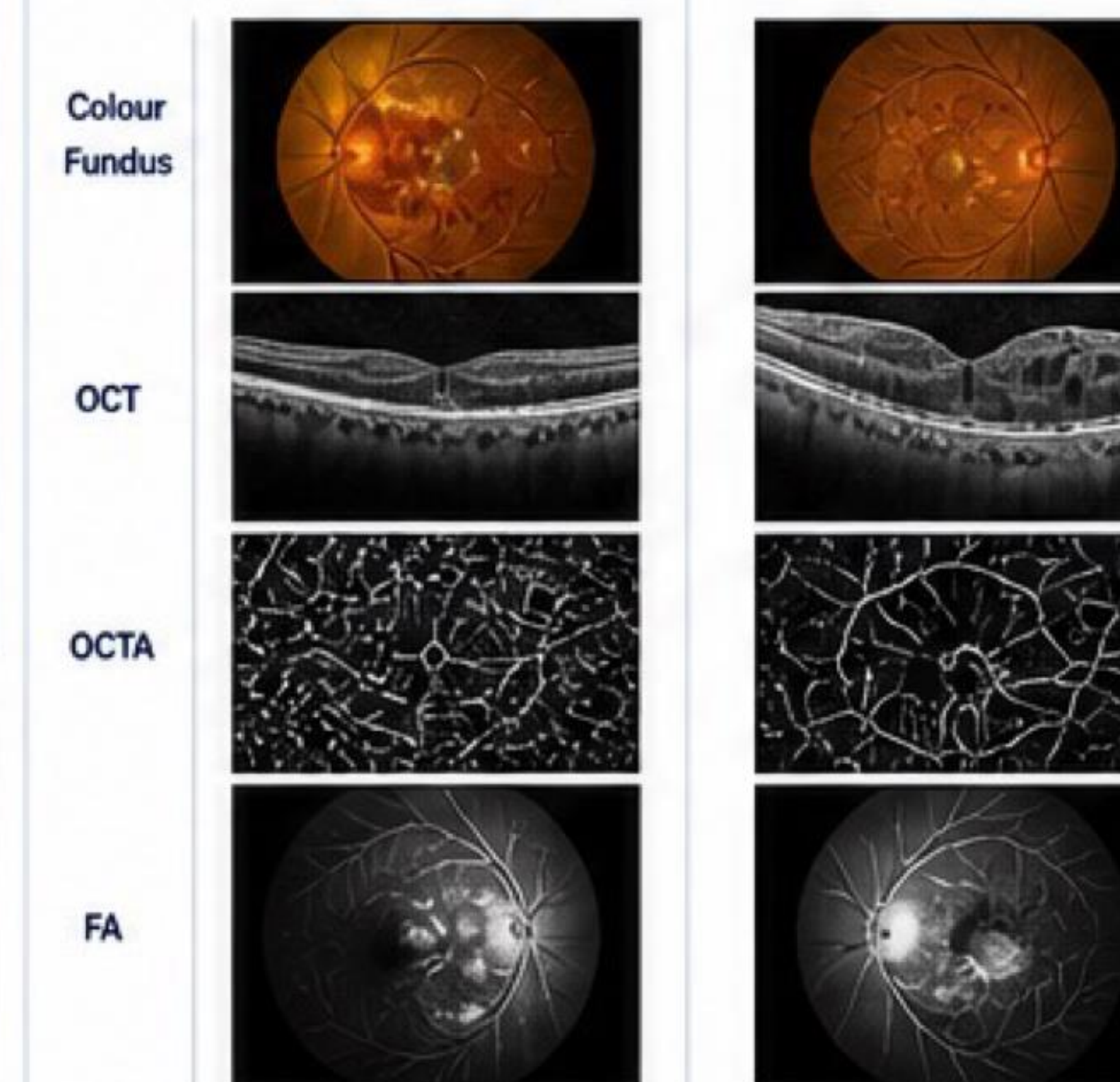
Emphasising multimodal imaging interpretation, structured diagnostic protocols, and targeted clinician training can reduce misdiagnosis and ensure appropriate management of RAP patients.



CASE EXAMPLES

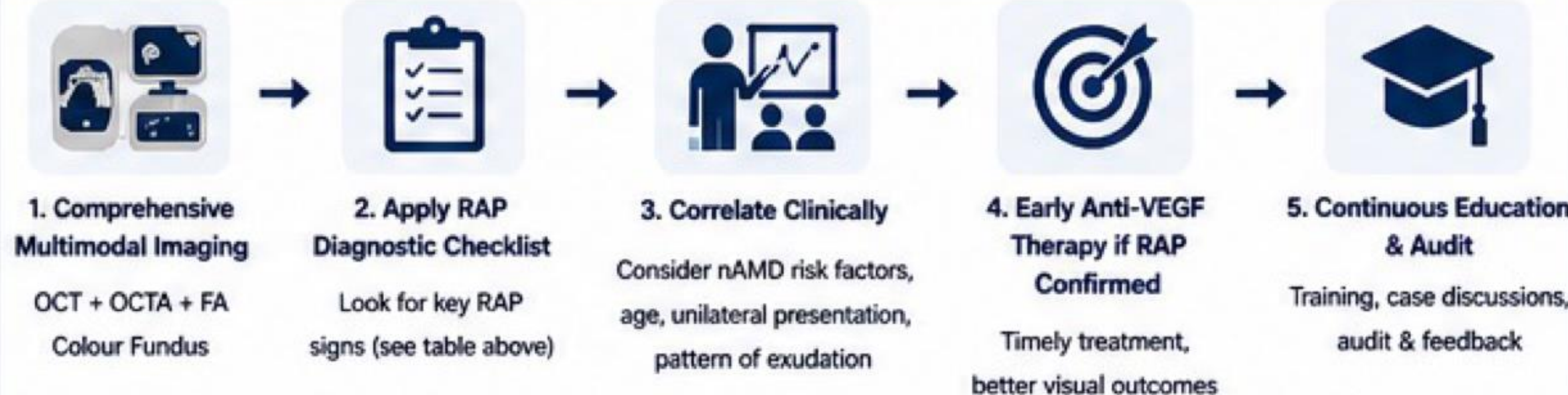
Case 1: RAP (misdiagnosed as BRVO)

Case 2: BRVO



Multimodal imaging revealed RAP features in Case 1, prompting appropriate anti-VEGF therapy with visual improvement.

PROPOSED DIAGNOSTIC STRATEGY



A systematic approach improves diagnostic accuracy and ensures timely treatment.



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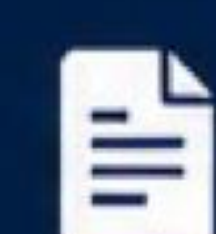
CONFLICTS OF INTEREST

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CONSENT TO PUBLISH

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CASE REPORTS

Yes



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