Beyond the Finish Line: A Case of Retinal Vein Occlusion in an Athlete

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Abstract

A 33-year-old marathon runner presented with right-sided branch retinal vein occlusion (BRVO) and macular oedema. With no systemic risk factors or medical history, dehydration-induced hyperviscosity was considered a potential cause. The patient regularly undertook high-intensity endurance running and used cordyceps and cannabidiol (CBD) oil. He was successfully treated with anti-VEGF injections. This case highlights the need to consider non-traditional risk factors such as dehydration in younger, active individuals and the importance of prompt diagnosis and treatment in preserving visual function.

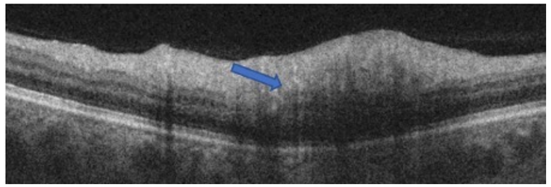


Figure 1: OCT showing cystoid macular oedema (CRT: 619 µm)

Introduction

Branch retinal vein occlusion (BRVO) is a common retinal vascular disorder, usually affecting older individuals and linked to systemic conditions like hypertension or diabetes[1]. In younger patients without these factors, dehydration and exertion must be considered.[2]

Case Description

A 33-year-old male marathon runner reported blurred vision in his right eye. OCT showed cystoid macular oedema (CRT: 619 µm). No systemic risk factors were found. Supplements included cordyceps and CBD oil. Blood tests were normal.

Management

He was treated with intravitreal aflibercept injections on a monthly loading regimen. Hydration was strongly advised to reduce the risk of recurrence linked to increased blood viscosity during endurance activity. Use of CBD oil was discontinued due to its unclear vascular effects. At four-week follow-up, there was marked reduction in oedema and visual improvement. Laser photocoagulation was not indicated due to minimal ischaemia. The case was managed conservatively with excellent response to anti-VEGF therapy and lifestyle adjustments.

Discussion

This case demonstrates a rare occurrence of BRVO in a fit, young individual. Intense physical activity, especially with insufficient hydration, can increase blood viscosity and induce a hypercoagulable state. Literature on cannabis derivatives suggests potential thrombotic risks, although causality remains unclear. [3]In the absence of ischaemia, VEGF inhibitors were preferred over laser treatment. Clinicians should explore exertional and environmental triggers when systemic causes are lacking. Recognition of such risk factors is vital to optimise treatment outcomes.



Figure 2: Fundus image showing flame hemorrhages and cotton wool spots

Conclusion

BRVO can affect young, healthy individuals, particularly those engaged in high-endurance sports. Dehydration, supplements, and training regimens may all influence vascular events. A detailed lifestyle history is crucial in such cases. Early OCT imaging and anti-VEGF therapy remain the mainstay of treatment. This case highlights the importance of hydration counselling, especially in active populations, and broadens the differential diagnosis for unilateral vision changes in younger patients.

References

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