Frozen in Development: Persistent Fetal Vasculature Presenting with Cataract

Congelado no Desenvolvimento: Persistência da Vasculatura Fetal em Catarata

Catarina Francisco [1,2], Renato Correia Barbosa [1]

[1] Department of Ophthalmology, Unidade Local de Saúde de Matosinhos, Matosinhos, Portugal
[1] Faculty of Medicine, Porto University, Porto, Portugal

Recebido/Received: 2025-12-10 | **Aceite/Accepted:** 2026-03-22 | **Published online/Publicado online:** 2026-06-12 | **Published/Publicado:** 2026-09-26

© 2026 Oftalmologia. This is an open-access article under the CC BY-NC 4.0. Re-use permitted under CC BY-NC 4.0. No commercial re-use.
© 2026 Oftalmologia. Este é um artigo de acesso aberto sob a licença CC BY-NC 4.0. Reutilização permitida de acordo com CC BY-NC 4.0. Nenhuma reutilização comercial.

DOI: https://doi.org/10.48560/rspo.44538

KEYWORDS: Cataract; Eye Abnormalities; Persistent Hyperplastic Primary Vitreous/diagnosis; Visual Acuity.

PALAVRAS-CHAVE: Acuidade Visual; Anomalias Congénitas do Olho; Catarata; Vítreo Primário Hiperplásico Persistente/diagnóstico.

Persistent fetal vasculature (PFV) is a rare congenital anomaly due to failed regression of the hyaloid artery and primary vitreous.[1] It is the most frequent identifiable cause of unilateral congenital cataract, with a high risk of amblyopia, although idiopathic cases remain the most common overall.[2,3]

We report a 49-year-old male with amblyopia and myopia in the right eye (OD), referred for an eyelid lesion. He was born at term following an uneventful pregnancy and delivery. Slit-lamp examination revealed an eyelid lesion obstructing the visual axis, a corneal leucoma with neovascularization, and a white cataract. Visual acuity in the OD was light perception. The fellow eye had best-corrected visual acuity of 8/10 and no relevant abnormalities.

The clinical image demonstrates a whitish lens opacity with abnormal vascular proliferation, consistent with cataract secondary to PFV. Posterior segment visualization was precluded by media opacity; however, B-scan ultrasonography revealed a retrolental echogenic band, supporting the diagnosis of PFV.

Management included excision of the eyelid lesion, histologically confirmed as basal cell carcinoma; incomplete excision prompted planned re-excision. Given the long-standing amblyopia, cataract surgery is under multidisciplinary evaluation. PFV remains a vision-threatening anomaly with limited therapeutic outcomes, highlighting the importance of early recognition.

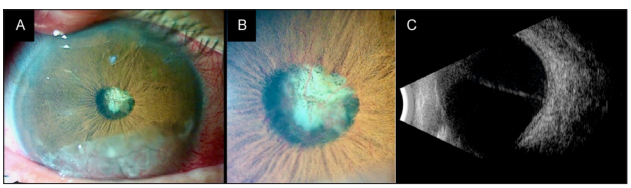


Figure 1. Multimodal imaging of the right eye.

(A) Slit-lamp photograph showing a dense central whitish lenticular opacity associated with persistent fibrovascular tissue and inferior corneal leucoma.

(B) Magnified view highlighting abnormal retrolenticular vascularization.

(C) B-scan ultrasonography demonstrates a central, linear fibrovascular stalk extending from the posterior pole toward the lens, consistent with persistent fetal vasculature.

CONTRIBUTORSHIP STATEMENT / DECLARAÇÃO DE CONTRIBUIÇÃO

CF: Contributed to data collection and analysis, literature review, and manuscript drafting.

RB: Contributed to case interpretation and critically reviewed the manuscript.

The authors approved the final version to be published.

CF: Participou na recolha e análise dos dados clínicos, na revisão da literatura e na redação do manuscrito.

RB: Contribuiu para a interpretação do caso e reviu criticamente o manuscrito.

Os autores aprovaram a versão final a ser publicada.

RESPONSABILIDADES ÉTICAS

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.

Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Consentimento: Consentimento do doente para publicação obtido.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

ETHICAL DISCLOSURES

Conflicts of Interest: The authors have no conflicts of interest to declare.

Financing Support: This work has not received any contribution, grant or scholarship.

Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of patient data.

Patient Consent: Consent for publication was obtained.

Provenance and Peer Review: Not commissioned; externally peer-reviewed.

REFERENCES

1. Prakhunhungsit S, Berrocal AM. Diagnostic and Management Strategies in Patients with Persistent Fetal Vasculature: Current Insights. Clin Ophthalmol. 2020;14:4325-35. doi:10.2147/OPTH.S236117
2. AlGhazal F, Semidey VA, Rubio-Caso MJ, AlSulaiman SM, Sesma G. Surgical Parameters and Prognostic Factors in Persistent Fetal Vasculature: Insights from a Retrospective Cohort Study. Ophthalmol Ther. 2025;14:515-28. doi:10.1007/s40123-024-01088-6
3. Chen H, Chen W, Zhou F, Luo C, Lin Z, Li X, et al. Clinical Classification and Management Outcomes of Anterior Segment-Dominated Persistent Fetal Vasculature: The CCPMOH Report. Am J Ophthalmol. 2025;271:316-28. doi:10.1016/j.ajo.2024.11.024



Corresponding Author/
Autor Correspondente:

Catarina Francisco
R. de Dr. Eduardo Torres,
4464-513 Sra. da Hora, Portugal
E-mail: catarina.francisco@sapo.pt

ORCID: 0000-0002-3152-542X