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(CASE REPORT)

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Bilateral Persistent Pupillary Membranes in Adulthood: A case report

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Abstract

We report the case of a 43-year-old woman with bilateral persistent pupillary membranes (PPM) obstructing the visual axis, leading to chronic visual impairment since childhood. Best corrected visual acuity was 1/10 in both eyes, with slit-lamp examination revealing dense PPM and high myopia on cycloplegic refraction. No prior treatment had been attempted, and the patient declined surgical intervention. While PPM is typically asymptomatic and regresses in infancy, this case illustrates a rare adult presentation with significant visual consequences. Early detection and appropriate management are essential, especially in cases with central obstruction.

Keywords: Persistent pupillary membrane; Visual axis obstruction; Amblyopia; Congenital ocular anomalies

1. Case Report

A 43-year-old woman presented with bilateral progressive blurred vision since childhood, with no history of trauma, ocular surgery, or systemic disease. Her best corrected visual acuity was 1/10 in both eyes. Slit-lamp examination revealed thick persistent pupillary membranes (PPM) in both eyes, obstructing the visual axis. Cycloplegic refraction showed high myopia. The cornea, lens, and fundus after dilation were otherwise unremarkable. Bilateral PPM was diagnosed, likely responsible for the chronic visual disturbance. No surgical intervention had been previously attempted. Surgical treatment was proposed with explanation of visual prognosis. The patient opted for therapeutic abstention.

2. Discussion

PPM are remnants of the tunica vasculosa lentis, a transient fetal vascular network that nourishes the developing lens during embryogenesis. This structure normally regresses before birth, in the sixth month and disappears completely by the eighth month of gestation(1). When it persists due to an incomplete or failed resorption, it appears as strands across the pupil. Some fibers adhere to the cornea or the anterior capsule of the lens, which explains the occurrence of cataracts, edema, or corneal opacity. Postnatal PPM experiences significant atrophy during the first year of life. While small residual strands are common and usually benign, asymptomatic and with no functional significance, extensive or centrally located membranes can block the visual axis and impair vision causing amblyopia(2). This case is notable for the persistence of dense, vision-impairing PPM in an adult, a rare occurrence. Most PPM cases presenting in adulthood are asymptomatic or incidental findings. Conservative management is often effective for small PPMs, including the use of mydriatics, refractive correction, and patching to treat amblyopia(3,4). In cases with thick, fibrotic membranes, surgical removal may be required. For older individuals with thin, less dense membranes, Nd:YAG laser membrane lysis may be a viable treatment option(2,5).

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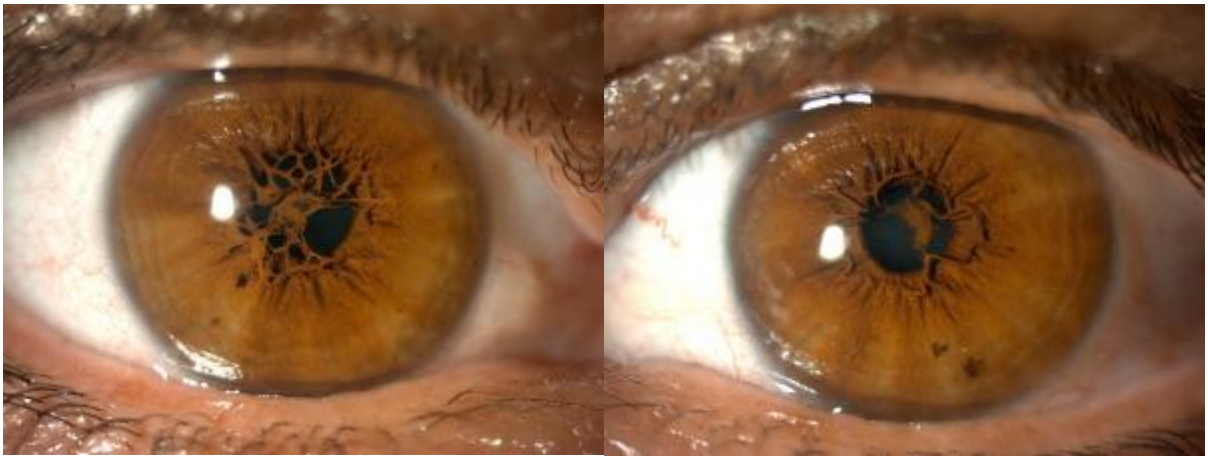

Figure 1 Slit-lamp photograph showing a thick, fibrous persistent pupillary membrane crossing the visual axis on both eyes

3. Conclusion

Persistent pupillary membranes may occasionally persist into adulthood and cause significant visual impairment, especially when centrally located. Recognition of this rare but treatable cause of vision loss is essential. This case emphasizes the importance of slit-lamp examination in patients with unexplained decreased vision and suggests early intervention when PPM obstructs the visual axis. It also highlights the importance of early screening in children to prevent the development of amblyopia.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflicts of interest.

Statement of informed consent

Written informed consent was obtained for anonymized patient information to be published in this article.

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Authorship

All authors meet the ICMJE criteria for authorship. Patient consent was obtained.

References

[1] Goldberg MF. Persistent fetal vasculature (PFV): an integrated interpretation of signs and symptoms associated with persistent hyperplastic primary vitreous (PHPV). LIV Edward Jackson Memorial Lecture. Am J Ophthalmol. nov 1997;124(5):587-626.

[2] Persistent Pupillary Membrane - EyeWiki [Internet]. [cité 9 avr 2025]. Disponible sur: https://eyewiki.org/Persistent_Pupillary_Membrane

[3] Bettich Z, Lezrek O, Laghmari M, Boutimzine N, Ouafae Cherkaoui L. [Persistent pupillary membrane]. J Fr Ophtalmol. nov 2018;41(9):890-2.

[4] Kouisbahi A, Elorch H, Mouine S, Amhoud K, Ibrahimi F, Oudbib M, et al. Bilateral persistent pupillary membrane in an adult patient: A case report. J Fr Ophtalmol. nov 2018;41(9):e421-2.

[5] Kraus CL, Lueder GT. Clinical characteristics and surgical approach to visually significant persistent pupillary membranes. J AAPOS Off Publ Am Assoc Pediatr Ophthalmol Strabismus. déc 2014;18(6):596-9.