

## Vascular perfusion in persistent pupillary membrane of the iris

Michael Chang, David Ancona-Lezama, Carol L Shields

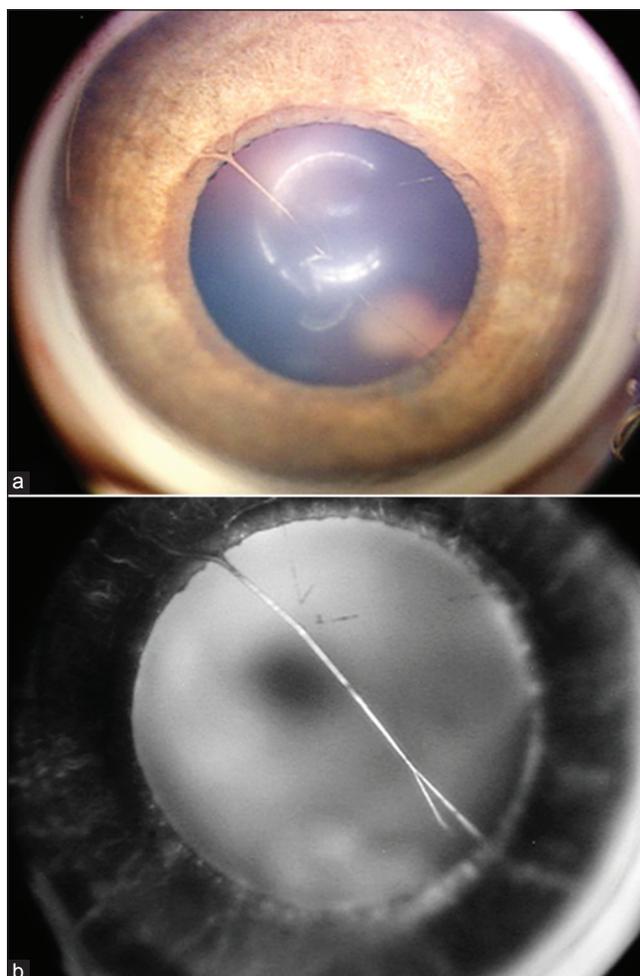
**Key words:** Fluorescein angiography, persistent pupillary membrane, retinoblastoma

A 15-month-old Caucasian female with an uncomplicated birth, noted to have leukocoria at 9 weeks of age, later confirmed to be bilateral retinoblastoma. Visual acuity was fix and follow in both eyes (OU). The anterior segment was normal in the right eye (OD) while a persistent pupillary membrane, extending from 10:00 to 5:00 from the collarette region, was noted in the left eye (OS) [Fig. 1a]. There was no corectopia, ectropion, iris neovascularization, iris distortion, iris tumor, lens abnormality, or hyphema. No evidence of persistent fetal vasculature on the lens or in the vitreous was observed. Retinoblastoma classification was Group E OD and Group B OS. Genetic analysis confirmed a heterozygous germline RB1 gene mutation.

Systemic chemotherapy using vincristine, etoposide, and carboplatin was initially employed for six cycles. Due to tumor recurrence, additional intra-arterial chemotherapy (IAC) with melphalan and topotecan was required OU. The tumors responded to treatment and remained stable throughout 2 years follow-up with globe preservation.

Fluorescein angiography, used to monitor treatment complications, demonstrated vascular perfusion within the iridopupillary membrane without iris neovascularization or leakage [Fig. 1b]. Perfusion remained unchanged throughout therapy.

During embryogenesis, a network of vessels, the hyaloid vascular system, forms to supply the developing eye.<sup>[1]</sup> Around the third trimester, this structure typically involutes.<sup>[2]</sup> Failures in this process results in a persistent pupillary membrane.<sup>[3]</sup> Rarely, these membranes can remain vascularized with hyaloid vessel remnants.<sup>[3]</sup> Remnants of the membrane, seen as thin white cobweb-like strands over the pupil, have been reported in 17-32% of cases.<sup>[4]</sup> However, only 0.3% of these cases, clinically,



**Figure 1:** (a) A 15-month-old female with retinoblastoma demonstrated a persistent pupillary membrane in the left eye that (b) showed evidence of vascular flow on fluorescein angiography

demonstrate vascular perfusion.<sup>[4]</sup> Most membranes do not justify assessment with fluorescein angiography. In this case, intrinsic flow was incidentally found with angiography.

In summary, we describe a young child with retinoblastoma that demonstrated coincidental vascular perfusion of persistent pupillary membrane.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other

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**Cite this article as:** Chang M, Ancona-Lezama D, Shields CL. Vascular perfusion in persistent pupillary membrane of the iris. *Indian J Ophthalmol* 2019;67:1704-5.

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#### DOI:

10.4103/ijo.IJO\_311\_19

Ocular Oncology Service, Wills Eye Hospital, Thomas Jefferson University, 840 Walnut Street, Philadelphia, PA, USA

**Correspondence to:** Dr. Carol L Shields, Ocular Oncology Service, Wills Eye Hospital, Thomas Jefferson University, 840 Walnut Street, Suite 1440, Philadelphia, PA - 19107, USA. E-mail: [carolshields@gmail.com](mailto:carolshields@gmail.com)

**Manuscript received:** 13.02.19; **Revision accepted:** 01.06.19

clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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