www.jcimcr.org

JCIMCR OPEN ACCESS Journal of Clinical Images and Medical Case Reports

ISSN 2766-7820

Clinical Image

Open Access, Volume 4

Hypertrophic persistent pupillary membrane: From fish mouth to spider web

Deeksha Rani*; Ayushi Aggarwal

Dr. RP Centre for Ophthalmic Sciences, AIIMS, New Delhi, India.

***Corresponding Author: Deeksha Rani**

Unit 1 Office, Dr. RP Centre for Ophthalmic Sciences, AIIMS, New Delhi, India.

Email: deekshamedico@gmail.com

Abstract

We describe a clinical picture of a hypertrophic persistent pupillary membrane causing sensory deprivation amblyopia.

Keywords: Persistent pupillary membrane; Tunica vasculosa lentis; Amblyopia; Persistent fetal vasculature.

Received: Sep 23, 2023

Accepted: Oct 18, 2023

Published: Oct 25, 2023

Archived: www.jcimcr.org

DOI: www.doi.org/10.52768/2766-7820/2657

Description

The clinical images of a 16-year-old male patient reveal a hypertrophic persistent pupillary membrane in both eyes. In the right eye, the undilated state (Figure 1A) gives the pupil a fish mouth-like appearance, while the dilated state (Figure 1B) results in a spider web appearance of the pupil. The left eye also exhibits this condition (Figures 1C and 1D), although the persistent pupillary membrane is less pronounced.

The best corrected visual acuity in the right eye was recorded as 2/60, with a refractive spherical equivalent of minus 8 Dioptres. The left eye, on the other hand, demonstrated an uncorrected visual acuity of 6/6. Axial length in the right and the left eye was 29.23 mm and 23.56 mm respectively.

The Persistent Pupillary Membrane (PPM) in the right eye obscures the visual axis when the eye is undilated. This leads to sensory deprivation and subsequent axial elongation, resulting in uncorrected myopia and anisometropic amblyopia.

Persistent pupillary membrane is a remnant of the anterior tunica vasculosa lentis, which is a component of the anterior persistent fetal vasculature. During the embryonic period, the lens is surrounded by a rich capillary network known as the tunica vasculosa lentis [1]. These vessels develop at the 6th to 7th week of gestation and begin to regress by the 5th month, usually disappearing completely by full term. However, if these vessels fail to regress, they can present as persistent fetal vasculature, which can manifest in various ways [2]. These manifestations can range from a minor Mittendorf dot to severe conditions such as tractional retinal detachment [3].

In this particular patient, a prominent unregressed tunica vasculosa lentis is causing sensory deprivation. A simple screening test, such as the observation of the red reflex at birth, can detect lesions that obscure the visual axis. Early detection and timely treatment of these lesions can prevent significant visual deterioration.

References

1. Oner A, Ilhan O, Dogan H. Bilateral extensive persistent pupillary membranes. J Pediatr Ophthalmol Strabismus. 2007; 44: 57-8.
2. 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. 1997; 124: 587-626.
3. Ozdemir Zeydanli E, Ozdek S, Acar B, Ozdemir HB, Aktas Z, et al. Surgical outcomes of posterior persistent fetal vasculature syndrome: Cases with tent-shaped and closed funnel-shaped retinal detachment. Eye. 2023; 37: 1371-6.

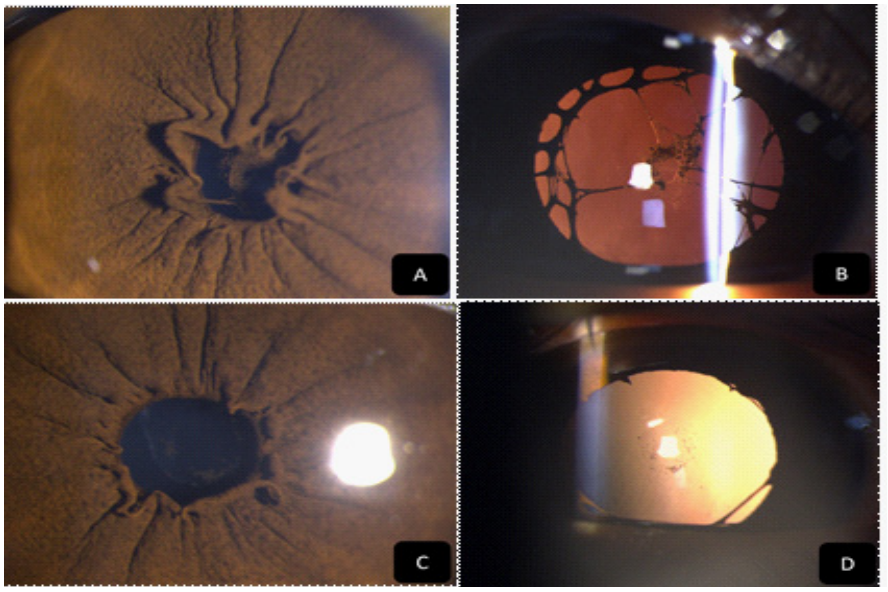

Figure 1: (A) Undilated pupil of right eye showing fish mouth pupil.
(B) Dilated pupil of right eye showing spider wed with pigments o anterior lens capsule.
(C) Undilated pupil of left eye showing less pronounced PPM.
(D) Dilated pupil of the left eye showing pigments on anterior lens capsule.