University Journal of Surgery and Surgical Specialities

ISSN 2455-2860 2021, Vol. 7(4)

# Persistent Pupillary Membrane: A Case Report

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**ABSTRACT**

Persistent pupillary membrane is a remnant of tunica vasculosa lentis which is the source of nutrition to the developing lens. This persist as strands of tissue across the pupil. This is a case report of a 6 year old boy with persistent pupillary membrane.

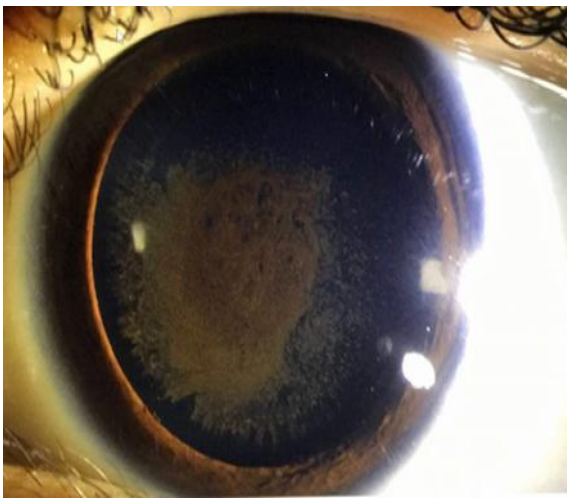
**INTRODUCTION**

Persistent pupillary membrane embryologically arises from tunica vascular lentis which persists even after birth. Blood supply of lens in fetal life is from tunica vasculosa lentis. Remnants of these remains as strands attached to the iris. This usually starts regressing from sixth month of gestation and completely disappears by eighth month. When it persists after birth it will regress by one year of age. However if persistent pupillary membrane is hyperplastic, it is unlikely to regress. Vision is usually not impaired unless it is thick enough to obscure the visual axis and causes stimulus deprivation amblyopia. Early intervention is needed to prevent it.

**CASE REPORT**

A 6 year old boy presented with diminution of vision of the left eye since childhood. The child was born by full term cesarean delivery of uncomplicated pregnancy. There was no abnormality detected on systemic examination. Extraocular movements were full and free in both the eyes. His best corrected visual acuity were 6/6 N6 in the right eye and 6/18 N12 in the left eye. On slit lamp examination, anterior segment examination of right eye was within normal limits. Left eye showed a thick persistent pupillary membrane obscuring the visual axis even when the pupil was dilated (fig). Rest of anterior segment examination was within normal limits.

**Figure : Slit lamp photo showing Persistent pupillary membrane**



Intra ocular pressure measured by Goldmann applanation tonometry was found to be 10 mm of Hg in both eyes. Dilated fundus examination of both eyes were within normal limits. Patient underwent persistent pupillary membrane removal under general anesthesia. Persistent pupillary membrane was found to be adherent to the anterior capsule. It was removed with a spatula and anterior capsule polishing was done. A clear lens was noted underneath. Post - operative period was uneventful. Patient was prescribed glasses and was advised patching of right eye for 6 hours per day and was advised to come for regular follow up.

## DISCUSSION

Persistent pupillary membrane is more commonly seen in premature infants but is seen in 95% of normal babies also. These are remnants of tunica vasculosa lentis that usually undergo regression by around fifth month of gestation by phagocytosis by macrophages. But any dysfunction of this process of phagocytosis will lead to its persistence .Lens gets its nutrition from tunica vasculosa lentis in fetal life.

They are frequently confused with accessory iris membrane. In both the cases thick iris strands are found attached to the collarette. This should also be differentiated from congenital idiopathic microcoria which is due to dilator pupillae underdevelopment. Usually it is sporadic in onset but autosomal dominant inheritance is also reported. Normally it is not associated with other pathology. But there are reports showing it to be associated with toxoplasma, congenital rubella and congenital dystrophiamyotonica. Persistent pupillary membrane can be treated with mydriatic therapy or can be left untreated and might just need regular follow up when there is adequate pupillary opening. However when pupillary opening is less than 1.5 mm then treatment becomes essential. Treatment modalities usually include mydriatrics, Nd:Yag laser induced lysis and surgery. Thin membranes can be treated with NdYag laser. There is a risk of bleeding as there can be presence of blood vessels. These blood vessels can be seen in fluorescein angiography. These vascular tufts can result in spontaneous hyphema. There is risk of cataract formation, pigment dispersion, hyphema and also elevation of intraocular pressure following Nd YAG laser. Surgery is found to be more beneficial than other modalities. Surgery consists of membranectomy, lens aspiration, intraocular lens implantation and treatment for amblyopia. Evidence shows that there was an occurrence of epithelial ingrowth when persistent pupillary membrane removal was combined with phacoemulsification so to avoid this risk two stage procedure is preferred. So the risk of epithelial ingrowth should also be borne in mind .Other than NdYag laser, argon laser can also be used. Visual outcome of hyperplastic persistent pupillary membrane is relatively good when treated appropriately. However unilaterality, delay in starting treatment and poor initial visual acuity can affect the visual outcome.

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