

Persistent pupillary membranes in a cat: a case report

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Received: August 2011

Persistent pupillary membranes (PPMs) are remnants of embryonal tissues of the iris, and seen as retained iris strands in both juveniles and adults. Persistent pupillary membranes are rare in the cat (Townsend and Stiles, 2007). A case of persistent pupillary membranes in a non-descript cat is reported here.

An 11-months-old tom cat was presented with the complaint of doubt in vision. Obstacle course test, menace reflex and pupillary light reflex were negative for the right eye (OD), while they were positive for the left eye (OS). The axial portion of both corneas (OU) showed focal opacity. Lens of the right eye (OD) was opaque, while the other (OS) was transparent. Numerous thin membranous strands were seen from the collarette of iris, like radiating spokes of a wheel, and attaching to the axial portion of the cornea (OU) behind the focal area of opacity (Fig.). The membranous strands had the same colour as that of the iris. The condition was diagnosed as bilateral persistent pupillary membranes. The animal was put on to topical tropicamide eye drops (OU) @ 1 drop once daily, with once a week follow up for one month, with neither improvement nor aggravation of the condition. Surgical correction was not resorted to because of the potential complication of intra-ocular haemorrhage associated with it, as suggested by Collins and Moore (1999).

PPMs, appear not to be inherited, and may occur in eyes that are otherwise normal or that have multiple ocular anomalies (Townsend and Stiles, 2007). This membrane consists of fine blood vessels and connective tissue, and its regression in canines has been well described (Roberts and Bistner, 1968). Normally, the central vascular arcades regress first, beginning during the sixth week of canine ocular development. The peripheral arcades that have their origins at the collarette of the iris regress last. This process continues through the final three weeks of foetal development and into the immediate



Fig.: The cat with persistent pupillary membranes.

postnatal period. Incomplete resorption of embryonal vasculature and mesenchymal tissues results in retained iris strands, termed as persistent pupillary membranes (PPMs).

Corneal opacities occur when pupillary membrane remnants attach to the corneal endothelial surface, secondary to corneal oedema, fibroplasia, and changes in Descemet's membrane (Roberts and Bistner, 1968), are generally focal and axial, and peripheral vision is usually present (Collins and Moore, 1999). Focal axial corneal opacity (OU) was noticed in this case too, but peripheral vision was noticed only in one eye (OS).

References

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