Corneal Pigmentation in Pugs: By Any Other Name...

Corneal pigmentation (CP) can occur from mechanical damage, secondary exposure of the cornea (e.g., lagophthalmos), or immune-mediated disease. Information in a CERF report indicated that 21.26% of pugs that underwent CERF ophthalmic examinations had exposure keratopathy syndrome and pigmentary keratitis. However, corneal pigmentation was identified in 47/74 (64%) of pugs at the authors’ clinic. To evaluate this discrepancy, a study was conducted of 295 pugs >16 weeks of age from 3 locations. Medical histories, AKC registration, and photographs were obtained as well as Schirmer tear tests (STT), corneal sensitivity tests, fluorescein stain uptake tests, and slit lamp biomicroscopy of the anterior segment of each eye. CP was found to be significantly less common in spayed dogs. Severity was not associated with AKC status. There were differences between sexes, with male pugs having significantly more moderate to severe CP. Values for the STT and tear film breakup time were significantly lower in pugs with severe CP. CP was significantly more common in dogs with fawn coat color. Other findings included a high prevalence of iris hypoplasia and persistent pupillary membrane. This was considered a pigmentary keratopathy, the new recommended naming, rather than pigmentary keratitis or corneal melanosis.

Commentary

CP has been considered a nonspecific sign resulting from various irritating stimuli (e.g., mechanical abrasions, immune-mediated keratitis, abnormal eyelid conformation, trauma, and/or tear film disorders). This study not only showed that the prevalence of CP in pugs is much higher than previously thought, but also that the pathogenesis of CP may not be instigated by irritating ocular disorders. This study demonstrated that CP in pugs was not significantly associated with tear film deficiencies, ocular adnexal abnormalities, or severity of lagophthalmos. It is possible that CP in pugs is a genetic disease that can be exacerbated by other abnormalities (e.g., tear film abnormalities, entropion, lagophthalmos). — Alexis Dubin, DVM, & Ellison Bentley, DVM, DACVO

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