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Ocular lesions associated with attachment of the parasitic copepod *Ommatokoita elongata* (Grant) to corneas of Greenland sharks, *Somniosus microcephalus* (Bloch & Schneider)

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Abstract

The eyes from six Greenland sharks, *Somniosus microcephalus* (Bloch & Schneider), infected with the parasitic copepod *Ommatokoita elongata* (Grant) were collected in the Arctic waters of Victor Bay, North-west Territories, Canada, for study. Transformed adult female copepods, one per eye, were firmly attached to the corneas by an anchoring structure (i.e. the bulla) and each bulla was associated with an opaque area on the cornea. Two eyes additionally had one *O. elongata* copepodid attached to the cornea via frontal filaments with bullas which were each associated with a small corneal opacity. In addition to opacities associated with copepods at the time of collection, there were several randomly distributed, small, round-to-irregular, full-thickness corneal opacities which were not associated with copepods. Two unfixed eye lenses grossly examined in the field were normal in appearance. Histologically, corneal epithelial ulceration and heterophilic keratitis, disruption, mineralization, and detachment of Bowman's membrane, thinning, disorganization, mineralization and fibrosis of the corneal substantia propria, and focal thinning and mineralization of Descement's membrane were observed. Mild heterophilic and mononuclear anterior uveitis was also present. Based on the present observations, it is concluded that parasitism by *O. elongata* could lead to severe vision impairment (possibly including blindness) in Greenland sharks. However, the otherwise healthy

appearance of the infected sharks studied and the information contained in the literature suggests that *O. elongata* infections do not significantly debilitate the hosts.

Citing Literature

data mining and training of artificial intelligence technologies or similar technologies.