

Bacterial and fungal pathogens isolated from corneal ulcerations in domesticated elephants (*Elephas maximus maximus*) in Sri Lanka

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Abstract

Infective corneal diseases are common among the domesticated elephants in Sri Lanka, causing morbidity including blindness leading to loss of revenue to their owners. From 140 elephants of different ages and both sexes, 36 animals (25.7%) had evidence of keratitis, corneal ulcers, corneal opacities, and some had foreign bodies in their eyes. Nine elephants (6.4%) had lesions in both eyes (6.41%). Cultures for both bacteria and fungi were obtained from 26 corneal ulcers, including the nine elephants with bilateral lesions. The other 10 animals could not be restrained for sample collection. Swabs from the normal corneas of an additional 20 elephants without signs of any ophthalmic diseases were also collected. Twenty-three of the 35 (65.71%) samples from affected corneas yielded bacterial pathogens, and 14 (40%) also had fungal isolates. None of them yielded a fungal isolate alone. The predominant bacteria isolated were *Staphylococcus aureus*, beta hemolytic streptococci and coliforms. *Fusarium*, *Cladosporium*, *Curvularia* and *Aspergillus* species were the primary fungal isolates. No bacteria or filamentous fungi were isolated from the eyes with the normal corneas. Microbial identification including fungal isolations is suggested in the management of infective corneal diseases in elephants.