

Onchocerca lupi

Onchocerca lupi—a vector-borne nematode in dogs (and, rarely, cats) transmitted via black flies (*Simuliidae*)—is an emerging zoonosis in the United States. The vector *Simulium tribulatum* is endemic to southern California and is the only black fly species from which nematode DNA has been isolated.

Two dogs living in Canada that had previously resided in the southwestern United States (Utah and New Mexico) were referred to veterinary practices for ocular disease. Morphologic examination of nematodes from both dogs demonstrated a cuticular pattern consistent with *O lupi*. Histopathologic analysis from one of the dogs was suggestive of

O lupi infection, and genomic analysis confirmed *O lupi* in the other dog. A recent hypothesis suggests that *O lupi* was introduced into the United States through dogs from Europe. The authors suggested that *O lupi* may have an expansion of range into nonendemic parts of the United States and Canada, as the purchase or adoption of pets from the United States is common in Canada.

Commentary

Canine ocular onchocerciasis can cause granulomas to form in the periocular adnexa and soft tissues. This can lead to ocular pain, uveitis, and other ocular problems.¹ Onchocerciasis has also been identified as a zoonotic pathogen in multiple countries.² In this study, Canadian dogs with canine ocular onchocerciasis emphasized the reality of transporting an emerging zoonotic parasite from an endemic area to a

nonendemic area. Unfortunately, the ability to detect this disease in dogs is relatively difficult and regulations regarding transport of dogs across state or national borders are weak. This paper illustrates the need for further studies regarding awareness and diagnosis of significant zoonoses and parasites to aid in diminishing their global proliferation.—Becky Telle, DVM

References

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Source

Verocai GG, Conboy G, Lejeune M, et al. *Onchocerca lupi* nematodes in dogs exported from the United States into Canada. *Emerg Infect Dis.* 2016;22(8):1477-1479.

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