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ACCEPTED MANUSCRIPT

Aberrant laryngeal location of Onchocerca lupi in a dog

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Abstract

Onchocerca lupi (Spirurida, Onchocercidae) is an emerging vector-borne helminth that causes nodular lesions associated with acute or chronic ocular disease in dogs and cats. Since its first description in dogs in 1991, this zoonotic filarioid has been increasingly reported in Europe and the United States. An 8-year-old outdoor mixed-breed female dog from the Algarve (southern Portugal) was presented with a history of severe dyspnoea. Cervical and thoracic radiographs revealed a slight reduction in the diameter of the cervical trachea and a moderate increase in radiopacity of the laryngeal soft tissue. An exploratory laryngoscopy was performed, revealing filiform worms associated with stenosis of the thyroid cartilage and a purulent necrotic tissue in the larynx lumen. A single sessile nodule, protruding from the dorsal wall of the laryngeal lumen caused a severe reduction of the glottis and tracheal diameter. Fragments of the worms were morphologically and molecularly identified as O. lupi. Histological examination of the nodule showed a granulomatous reaction with sections of coiled gravid female nematodes. Following laryngoscopy, a tracheostomy tube was inserted to relieve dyspnoea and ivermectin (300 µg/kg, once a week, for 8 weeks) combined with prednisolone were prescribed. The dog showed a complete recovery. Although O. lupi has been isolated in human patients from the spinal cord, this is the first report of an aberrant migration of O. lupi in a dog. The veterinary medical community should pay attention to aberrant location of O. lupi and consider onchocercosis as a differential diagnosis for airway obstruction in dogs.

Keywords: *Onchocerca lupi*; aberrant location; laryngeal stenosis; canine onchocercosis; zoonosis; Portugal

Onchocerca lupi, canine onchocercosis, laryngeal stenosis, aberrant localization, zoonosis, Portugal

1. Introduction

Onchocerca lupi (Rodonaja, 1967) originates an arthropod-borne infection of zoonotic potential [1]. After its first description in the sclera of a wolf (Canis lupus) in the Republic of Georgia [2], several cases have been increasingly reported in domestic dogs worldwide, including Hungary [3], Greece [4], Germany [5], Switzerland [6], Portugal [7, 8] and the USA [9,10]. Onchocerca lupi infects ocular tissues causing acute or chronic ocular lesions of different degrees, with clinical features ranging from no apparent clinical signs to blindness [1, 10]. From where the infection is reported in dogs, zoonotic ocular infection may also occur

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