HERPESVIRUS ASSOCIATED WITH GENITAL LESIONS IN A STRIPED DOLPHIN (*STENELLA COERULEOALBA*) IN THE CANARY ISLANDS

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Introduction: Herpesviruses in cetaceans have been described in association with encephalitis, skin lesions and fatal disseminated infections.

Material and Methods: An adult male striped dolphin (*Stenella coeruleoalba*) stranded in the Canary Islands in 2011. A complete necropsy examination was performed. Both formalin-fixed and fresh unfixed samples, for histopathological and microbiological studies, respectively, were taken from selected tissues. Tissue sections for microscopical studies were stained with haematoxylin and eosin.

Results: The most remarkable gross finding was the presence of two fleshy masses of approximately 1-cm diameter, raised, both tan and pigmented, respectively, near the tip of the penis. Histologically, they were composed of hyperplastic epithelial cells with pigmentary incontinence. Ballooning degeneration and margination of chromatin was observed within the superficial stratum of the epidermis. Lymphocytes and plasma cells were present at the dermoepidermal junction. Based on the association of herpesviruses with skin lesions in other marine mammal species, a universal nested polymerase chain reaction (PCR), that amplifies a conserved region within the polymerase gene, was applied. The product of the PCR was electrophoresed in agarose gel. An amplicon of about 215 and 315 bp was obtained (expected size) and sequenced.

Conclusions: A herpesvirus was associated with the genital lesions in this case.

GRANULOMATOUS LESIONS AND *MYCOBACTERIUM AVIUM SUBSP. PARATUBERCULOSIS* IN PORTUGUESE WILD BOARS (*SUS SCROFA*)

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Introduction: Wild boar (*Sus scrofa*) is considered a vector of mycobacterial infections, but the presence of *Mycobacterium avium* subsp. *paratuberculosis* (MAP) has never been assessed in this species in Portugal.

Materials and Methods: During 2009–2011, 589 free-ranging wild boars legally hunted in the centre of Portugal were examined. The mesenteric lymph nodes of 97 animals were submitted for histopathological examination and tested for the presence of MAP (culture and PCR).

Results: Granulomatous lymphadenitis was found in 28 mesenteric lymph nodes, in which the presence of lymphocytes (96.4%) and caseous necrosis (78.6%) were the most common features. Lesions were always multifocal and ranged from occasional proliferative lesions, $<$ 1 cm (71.4%), to large areas of granulomatous lesions, $>$1 cm (28.6%) in diameter, of either necrotic or necrotic calcified granulomas. Of the 28 lymph nodes with granulomatous lymphadenitis, 46.4% were PCR positive and 21.4% culture positive.

Conclusions: We report the presence of MAP in the mesenteric lymph nodes of wild boars with granulomatous lesions. According to our results, 37.9% of the infected animals were approved for human consumption.

RENAL LESIONS IN DEER (*CERVUS ELAPHUS*): INVOLVEMENT OF *MYCOBACTERIUM AVIUM SUBSP. PARATUBERCULOSIS*

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Introduction: In Europe, paratuberculosis infection has been described in red deer (*Cervus elaphus*). *Mycobacterium avium* subsp. *paratuberculosis* (MAP) in kidneys was previously reported in cows with advanced paratuberculosis; however, it has not been identified in wild deer.

Material and Methods: Kidneys from 37 red deer from the centre of Portugal were examined for the presence of MAP by culture, IS900 polymerase chain reaction (PCR) and histopathology. Samples also included intestine and associated lymph nodes in which the same analytical procedures were performed.

Results: Lesions found in the kidneys of *Cervus elaphus* were of solitary nature or multifocal, with the exception of one case of chronic interstitial nephritis. Lesions consisted of granulomas, with a caseous nature, which varied in size from microscopical to up to 1 cm in diameter. Calcification was absent in all the observed cases. Only a small percentage (5.4%) of lesions had liquefactive necrosis at the centre of the granulomata. No mycobacteria were visualized in the organ samples submitted for histopathological examination and bacilloscopy. MAP was cultured from 13.5% kidney samples and MAP PCR identification allowed us to detect 81.1% of the infected red deer.

Conclusions: Granulomatous renal lesions may be associated with MAP infection. MAP circulates widely among populations of wild cervids in Portugal.

DIFFUSE LYMPHADENITIS AND DISSEMINATED *MYCOBACTERIUM AVIUM* SUBSP. *PARATUBERCULOSIS* INFECTION IN TWO WILD EURASIAN OTTERS (*LUTRA LUTRA L. 1758*)

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Introduction: Eurasian otters (*Lutra lutra, L. 1758*) are diving mammals of the Mustelidae family, order Carnivora that live almost exclusively in riparian habitats. They can be carriers of mycobacteria, but *Mycobacterium avium* subsp. *paratuberculosis* (MAP) has never been reported in these animals.

Materials and Methods: Two Eurasian otters that were found dead in the central region of Portugal were submitted for necropsy examination. Samples consisting of liver, spleen, kidney, intestine and lymph nodes were collected for histopathology, bacteriological culture and polymerase chain reaction analysis.

Results: On gross examination, the organs showed no significant alterations; however, microscopically, both animals had diffuse lymphadenitis with macrophage infiltration and deposition of hyaline material in the centre of the lymphoid follicles. The presence of MAP was confirmed by isolation in bacteriological culture and detected by molecular methods in multiple organs of both animals.

Conclusions: The occurrence of paratuberculosis infection has been well documented in non-ruminant wildlife, but in wild carnivores studies of MAP infection are scarce. Herein we confirm that Eurasian otters can be a carrier of mycobacteria, specifically of MAP, which, to the best of our knowledge, has never been described before.