

Pathology and One Health implications of fatal *Leptospira interrogans* infection in an urbanized, free-ranging, black-tufted marmoset (*Callithrix penicillata*) in Brazil

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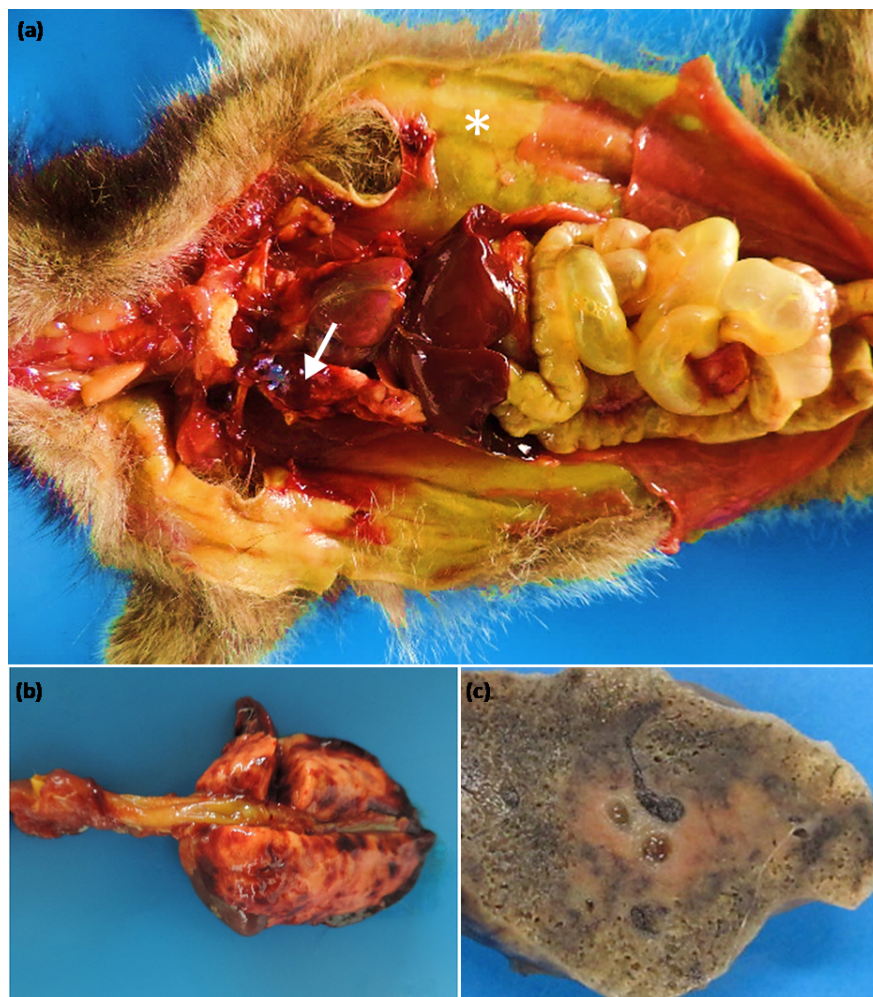
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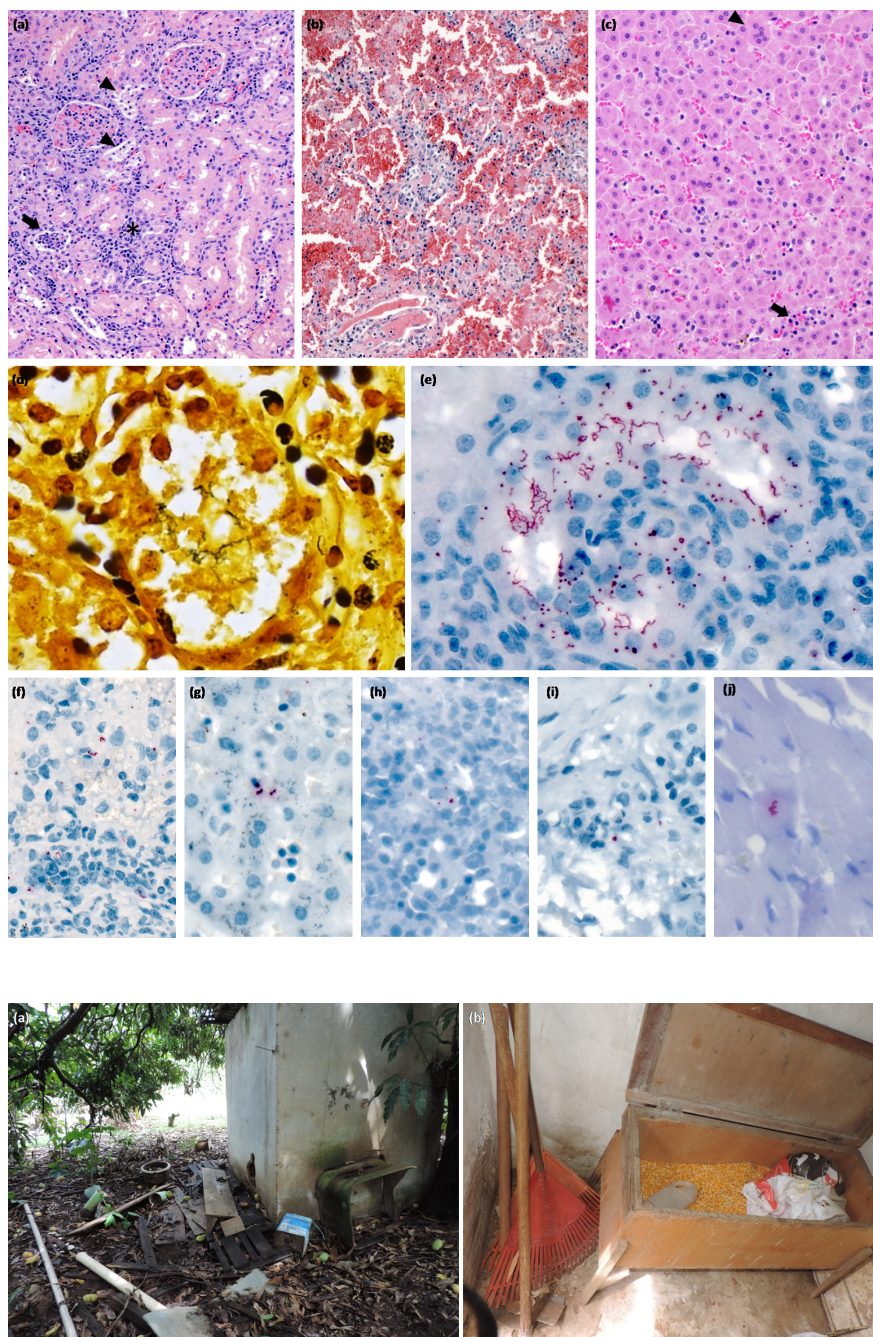
Abstract

Leptospirosis is a zoonotic neglected disease of worldwide public health concern. *Leptospira* species can infect a wide range of wild and domestic mammals and can lead to a spectrum of disease, including severe and fatal forms. Herein, we report for the first time a fatal *Leptospira interrogans* infection in a free-ranging nonhuman primate (NHP), a black-tufted marmoset. Icterus, pulmonary hemorrhage, interstitial nephritis and hepatocellular dissociation were the main findings raising the suspicion of leptospirosis. Diagnostic confirmation was based on specific immunohistochemical and PCR assays for *Leptospira* species. Immunolocalization of leptospiral antigens and identification of pathogenic species (*L. interrogans* species) were important for better understanding the pathogenesis of disease. One Health related implications of free-ranging NHPs in anthropized areas and transmission dynamics of human and animal leptospirosis are discussed.

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