

Hepatitis E virus in zoo housed primates

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Hepatitis E virus (HEV) has been detected in humans and various wild-living, farmed and pet mammals in various parts of the world. Zoo-housed primates are in close contact with their keepers and potentially susceptible for human pathogens. The knowledge on natural HEV infection in non-human primates and the corresponding risk for zoonotic transmission is scarce. To determine whether primates in captivity are affected by HEV infection, we investigated sera of clinically healthy primates of 14 species from nine German zoos. Using two commercial ELISAs, ten of 259 (3.9%) animals were detected to contain HEV-reactive antibodies in at least one assay. Seroreactive animals belong to three ape and one Old World monkey species: bonobo (*Pan paniscus*), gorilla (*Gorilla gorilla gorilla*), lar gibbon (*Hylobates lar*) and drill (*Mandrillus leucophaeus*). The absence of anti-HEV-IgM antibodies and viral RNA for all of the animals indicates the absence of acute HEV infections. Our results suggest, that non-human primates in zoos can get naturally infected with HEV without showing clinical signs of hepatitis. To identify potential sources and transmission routes of these infections and their impact on human health, future HEV monitoring in captive primates and potential reservoir species, such as pigs, deer, rabbits and rats, is highly recommended for zoos.

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