The Helicobacter Infection in Laboratory Rodent

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ABSTRACT

Presently, 5 Helicobacter species including H. hepaticus, H. muridarum, H. bilis, H. rodentium and Flexispira rappini have been isolated from laboratory mice. Among these species, only H. hepaticus has been clearly recognized as a pathogen for mice. Indeed, it infection displays the pathogenic potential to elicit hepatitis and hepatic cancer in several strains of mice including A/JCr, C3H/HeNC, SJL/NCr, BALB/cAnNCr and SCID/NCr. Flexispira rappini has not been found to be associated with lesions; H. muridarum has been observed in gastric glands of mice with chronic gastritis, and H. bilis has been reported in the liver of mice with chronic hepatitis. When associating with H. rodentium, H. bilis is able to induce diarrhea in SCID mice. In laboratory rats, 4 Helicobacter species have been identified, H. trogontum and H. muridarum have been isolated from the rat intestines, but there is no information concerning their respective pathogenicity. H. cinaedi and H. cholecystus have been identified from the intestines and gallbladders of laboratory hamsters, respectively. According to the epidemiological studies, H. hepaticus and H. bilis infections seem to be widespread in laboratory mice. Helicobacter infections can be diagnosed by histopathological analysis, bacterial culture, enzyme linked immunosorbent assay (ELISA), and polymerase chain reaction (PCR) techniques. Among those (PCR) is a rapid, specific and sensitive technique. Several drugs have been demonstrated to cure the infections of H. hepaticus in mice.

Keywords : Helicobacters, Laboratory Rodent, Pathology, Diagnosis, Epidemiology, Treatment

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