Enterically transmitted non-A, non-B hepatitis: Serial passage of disease in cynomolgus macaques and tamarins and recovery of disease-associated 27- to 34-nm viruslike particles (serial transmission/etiologic agent/seroconversion)

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Abstract

An experimental model of enterically transmitted non-A, non-B hepatitis (ET-NANBH) was established in tamarins (Saguinus mystar mystax) and cynomolgus macaques (Macaca fascicularis), First-passage animals were inoculated with two different stool suspensions obtained from human patients with well-defined ET-NANBH that originated from Burma and Pakistan, where epidemics of ET-NANBH occur. Both inocula contained 27- to 34-nm-diameter viruslike particles (VLPs) that were specifically aggregated by acute-phase ET-NANBH sera. ET-NANBH was subpassaged in both tamarins and cynomolgus macaques by using pools of stool suspensions from first-passage animals, One additional passage of disease in cynomolgus macaques resulted in a significantly shortened incubation period and increased severity of disease. VLPs similar to those found in the human inocula were observed in stool specimens of first-, second-, and third-passage cynomolgus macaques and in first- and second-passage tamarins. Our findings indicate that cynomolgus macaques are particularly suitable experimental models for studies of human ET-NANBH. The 27- to 34-nm VLPs found in infected human and primate stools appear to be etiologically linked to disease.

Reference

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