

HEPATITIS B VIRUS CROSS-REACTIVITY IN THE SERA OF FREE-LIVING SMALL MAMMALS IN SOUTH BOHEMIA

K. Křivanec, *M. Vlček, F. Cihla

Department of Virology, Army District Station of Hygiene and Epidemiology
and *Institute of Parasitology, Czechoslovak Academy of Sciences,
371 86 České Budějovice, Czechoslovakia

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The discovery of the woodchuck hepatitis virus (WHV) (1) is of great importance not only from general biologic aspect but also because the disease in the natural host can serve as an excellent model for the study of human hepatitis caused by B virus (HBV). In addition to WHV, another two more related viruses have been discovered in the U.S.A. These were the ground squirrel hepatitis virus (SGHV) in *Spermophilus beechevi* (2) and the duck hepatitis virus (DHV) in *Anas domestica* (3).

The four viruses are similar not only in their ultrastructure, but also possess analogous structural antigens including the virion DNA polymerase (4). Nevertheless, these viruses cannot be considered identical, although the homology of the WHV and HBV surface antigens constitutes 78% (5) as expressed by the cross-reactivity of surface antigens of the two viruses. The new group of viruses with a marked tropism to liver tissue was proposed for the establishment of an independent family *Hepadnaviridae* (6).

The data on serological cross-reactivity of surface HBV and animal hepadnavirus antigens have been used in our study stimulated by the results of screening of free-living rodents performed on a refuse dump at the locality Švábův Hrádek near České Budějovice in 1981. The screening revealed several cases of chronic hepatitis in *Rattus norvegicus* and *Apodemus sylvaticus* of unknown etiology. In the spring of 1983, following the dump decontamination, traps for the rodents were exposed once more. Blood of trapped animals was examined for the presence of antigens similar to HBV surface antigen. A small collection of 24 blood samples extracted from filter paper was examined in dilution 1 : 50 by the ELISA test using the set HBsAg micro (Sevac, Prague). The samples were obtained from 8 species of free-living small rodents and insectivores except of the brown rat (*R. norvegicus*) whose colonies were not found any more. AUSRIA II test (Abbott Laboratories) was performed to confirm the seropositivity demonstrated in 5 cases in rodents *Apodemus sylvaticus* and *Micromys minutus* and in insectivores *Crocidura suaveolans* and *Talpa europaea*.

Based on these findings we may tentatively conclude that a hepadnavirus-like virus is likely to circulate in the communities of small mammals in the suburban locality near České Budějovice, South Bohemia, as it has been reported so far from North America only. At present, studies aimed at morphological and a more detailed immunological identification of this agent are being performed.

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