

SEROLOGICAL EVIDENCE OF THE DISTRIBUTION OF MURINE ALPHAHERPESVIRUSES ON THE TERRITORY OF CZECHOSLOVAKIA

D. Blaškovič, Z. Sekeyová, O. Kožuch, M. Labuda, ¹K. Lisý, ²A. Čupalová, V. Mazák,
M. Vlček, ³J. Chmela, ⁵Z. Hubálek, ⁶Z. Jirková, ⁷K. Janáková

Institute of Virology, Slovak Acad. Sci., 817 03 Bratislava, ¹Institute of Experimental
Biology and Ecology, Slovak Acad. Sci., Bratislava, ²District Hygiene
Laboratory of the Central Bohemian Region Praha, Institute of
Parasitology, Czechoslovak Acad. Sci., České Budějovice, ³District
Hygiene Laboratory Olomouc, ⁵Institute of Systematic and
Ecologic Biology, Valtice, ⁶District Geographic Museum
Olomouc, ⁷Institute of Geology, Slovak Acad. Sci.
Bratislava, Czechoslovakia.

Received March 12, 1987

Murine herpesviruses (MHV) described in 1980 (1) belong to the subfamily *Alphaherpesvirinae* (2, 3, 4) and are distinct from mouse cytomegalovirus (MCMV, Strain Smith, 5). We attempted to follow the circulation of both virus species under natural conditions in Czechoslovakia (6). Blood from 1019 free living small mammals was collected during 1985 from 5 different regions (19 localities) situated approximately between 48°–50° N.L. and 14°–19° E.L. The altitude of the localities ranged from 100–500 m above sea level; they were characterized by their geological basis, geobotanical profile and climatic conditions (average year temperature and precipitation). Blood samples were collected during two seasons: spring (January – June) and autumn (July – December). Age and sex of the trapped animals were determined. Complement fixation micro test (CFMT) with three different strains of MHV and with MCMV was performed on plastic plates. The viruses were grown in rabbit embryo fibroblasts and mouse embryo fibroblasts respectively. After 72 hr the infected cultures were frozen and thawed and thereafter sonicated to prepare the antigens for CFMT.

Positivity of sera from captured animals was evaluated separately in each locality. Anti-complementary samples were discarded. Altogether 935 sera were evaluated. The percentage of positive sera varied greatly depending on the locality and sometimes of the season. From 1.1 to 40% of animals captured in the spring and 4–30% of animals captured in autumn reacted positively with MHV. The positive rate of same sera with MCMV ranged from 1.8 to 20% in the spring and from 5.3 to 47% in the autumn. More than 20% of positive sera were recorded in 4 localities of the same region (out of 5 regions and 19 localities). One individual serum could give a positive reaction with one, two or three MHV antigens without or with a positive answer to MCMV antigen. The crossreactivity of sera with antigens of the two virus species could be explained by the presence of a common antigen of the latter.

The most common hosts of the viruses were the murine species *Clethrionomys glareolus* and *Apodemus flavicollis*. Antibodies were occasionally detected also in *Apodemus sylvaticus*, *Microtus arvalis* and *Microtus agrestis* rodents.

References

1. Blaškovič, D., Stančeková, M., Svobodová, J., Mistríková, J., *Acta virol.* 24: 468, 1980.
2. Svobodová, J., Stančeková, M., Blaškovič, D., Mistríková, J., Leššo, J., Russ, G., Masárová, P., *Acta virol.* 26: 438, 1982.
3. Rajčáni, J., Blaškovič, D., Svobodová, J., Čiampor, F., Hučková, D., Staneková, D., *Acta virol.* 29: 51, 1985.
4. Svobodová, J., Blaškovič, D., Hučková, D., *Acta virol.* 30: 515, 1986.
5. Smith, M. C.: *Proc. Soc. exp. Biol. Med.* 36: 435, 1954.
6. Mistríková, J., and Blaškovič, D., *Acta virol.* 29: 312, 1985.