

ARENAVIRUSES - AN UNDERDIAGNOSED, MULTISPECIES GROUP OF RODENT-BORNE VIRUSES ALSO IN EUROPE?

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Arenaviruses are negative-stranded RNA viruses, which are carried by persistently infected rodent hosts with co-evolution of virus with host as a major rule in phylogeny. About 20 arenavirus species are presently known. Mirroring the host relationships, the arenaviruses are divided serologically and genetically into Old World and New World arenaviruses of which some members of the latter group (carried by Sigmodontinae rodents) together with the African Lassa virus can cause life-threatening hemorrhagic fevers (HF), which can be transmitted also from man to man.

In the New World, many novel arenaviruses have been found in new rodent host species during the last decade. In contrast, besides Lassa, Mobala, Ippy and Mopeia viruses in Africa, and LCMV in Europe, no other arenaviruses have yet been described in Europe or elsewhere in the Old World. Lymphocytic choriomeningitis virus (LCMV), carried by the house mouse is a known cause of meningitis in man, but the incidence of the disease is not well known anywhere in Europe.

As part of our studies on the viral zoonoses in Europe, our group has recently detected arenavirus antibodies in rodents collected from Croatia, Finland, Italy and Turkey. Seroprevalences have ranged from 0 - 30%, and infection has generally been more common in mice of the genus *Apodemus* than in *Myodes* (*Clethrionomys*) or *Microtus* voles.

The fact that arenavirus antibodies are found in wild rodents without any contact to house mouse indicates that we have a group of new arenaviruses in Europe. This is also suggested by preliminary characterization of the viruses from different host species. The fact that arenaviruses are widespread in Europe, and potentially harmful to humans warrants further studies on the diversity, distribution, and the ecological background for the arenavirus transmission in Europe.