

Summary

Diseases in wild chimpanzees of the Taï National Park, Côte d'Ivoire

While it is obvious that the survival of wild living primates is endangered, little is known about the prevalence of pathogens in these animals and their significance. In the present study three groups of habituated chimpanzees that had been living for more than 17 years under human observation in the Taï National Park (Côte d'Ivoire) were observed and followed and samples of their feces and urine were collected systematically for 13 months. Also detailed observations of animals with clinical symptoms were recorded. Four dead chimpanzees and two western red colobus monkeys underwent autopsy and pathological examination. Samples of muscular tissue could be obtained from two additional chimpanzees although the main part of those two cadavers had been consumed by leopards. The tissue samples were investigated histologically in cooperation with the German Primate Center at Göttingen/Germany. Samples from individuals that had died within the time frame of the field studies were analysed for a range of pathogens causing acute or chronic diseases, as well as several additional samples from chimpanzees that had died before 2001 using serological and molecular methods.

In six cases the cause of death could be identified unambiguously as an infection with *Bacillus anthracis*. While *B. anthracis* is endemic in many African regions, it was diagnosed for the first time in the context of the present study in wild-living primates. The question about the origin of the pathogen and the route of infection for these chimpanzees will be the focus of further studies.

In addition to other viruses, an unusual diversity of different STLV-1 strains could be determined in the chimpanzees. A phylogenetic comparison of the chimpanzee STLV-1 strains with two strains that had been found in red colobus monkeys showed a closer relatedness of the colobus with the chimpanzee strains than that of the chimpanzee strains among each other. Since chimpanzees routinely hunt and consume red colobus monkeys, transspecies transmission of STLV-1 from prey to the hunter could be postulated. In these and other African regions, humans also hunt and consume monkeys, therefore such a transspecies transmission event might also suggest a possible transmission to humans and point towards the risks involved in consuming bushmeat from monkeys.

Using a modified HTLV-1/2 Western Blot, the prevalence of STLV-1 could be investigated by determining the antibody status in urine samples from all members of the three chimpanzee groups. It becomes possible by such investigations to assess the range of emerging and variations of well-known pathogens and thereby to contribute to protect endangered primates as well as protect the health of the human population.