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Simian foamy virus in non-human primates and cross-species transmission to humans in Gabon

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It is now known that all human retroviruses have a non-human primate counterpart. It has been reported that the presence of these retroviruses in humans is the result of interspecies transmission. Several authors have described the passage of a simian retrovirus, simian foamy virus (SFV), from primates to humans. To better understand this retroviral "zoonosis" in natural settings, we evaluated the presence of SFV in both captive and wild non-human primates and in humans at high risk, such as hunters and people bitten by a non-human primate, in Gabon, central Africa. A high prevalence of SFV was found in blood samples from non-human primates and in bush meat collected across the country. Mandrills were found to be highly infected with two distinct strains of SFV, depending on their geographical location. Furthermore, samples collected from hunters and non-human primate laboratory workers showed clear, extensive cross-species transmission of SFV. People who had been bitten by mandrills, gorillas and chimpanzees had persistent SFV infection with low genetic drift. Thus, SFV is presumed to be transmitted from non-human primates mainly through severe bites, involving contact between infected saliva and blood.

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