

LABORATORY DIAGNOSIS AND RESEARCH OF RABIES ANTIBODIES IN CHIROPTERA IN THE STATE OF SÃO PAULO, BRAZIL.

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There are 950 species of Chiroptera in the world, and 144 of these are in Brazil, the majority of which are insectivorous and frugivorous. The rabies virus has been isolated in 27 out of 144 species. Between 1990 and 1996 occurred in Brazil, 44 cases of human rabies transmitted by bats. At this country bats represent the second species in transmission of human rabies and hematophagous bats constitute the major species involved in rabies transmission to herbivores. The Center for the Control of Zoonosis of the municipality of São Paulo received 1883 specimens of bats to rabies diagnosis by fluorescent antibody (FA) and mouse inoculation test (Mit) in the period between January of 1992 and June of 1998. Blood samples were collected from the 779 out of 1883 bats and the sera were analyzed by rapid fluorescent focus inhibition test (RFFIT) for research of rabies neutralizing antibodies. Seven bats (0.44%) were positive for rabies in FA and MIT techniques: two *Histiotus velatus*, one *Myotis nigricans*, one *Lasiurus borealis*, one *Lasiurus cinereus*, one *Desmodus rotundus* and one *Carrollia perspicillata*. On MIT, the incubation periods were variable from 11 to 14 days. The prevalence of the antibodies was 4.5% (35/779) using 0.5IU/ml like cut-off, but 248 specimens showed titers higher than 0.1 IU/ml indicating previous contact with the rabies virus. The insectivorous bats and *Molossus molossus* constituted the majority of the samples (84.5% and 68.8% respectively), and females were predominant (68.0%). The prevalence of antibodies was 5.3% among females and 2.9% among males. The prevalence of antibodies in insectivorous bats was 4.4% and among *Molossus molossus* was 3.7%. The majority of the bats were captured from ceilings or attics of houses and empty spaces of buildings in urban areas of São Paulo and Jundiaí cities (93.8%). Four of the seven positive cases occurred in cities where the last rabies case in domestic animal was reported more ten years ago. The rabies virus isolation, especially in non-hematophagous bats, the antibodies prevalence observed and the proximity between bats populations and human habitations imply a potential danger of exposure to rabies for humans and pets.

The practical significance of the presence of rabies antibodies in bats, without the detection of the virus is not yet clearly defined: are they incubating the rabies virus? Are they immune or can they develop the disease? What's the source of rabies virus to insectivorous bats? Factors such as induced tolerance through precocious exposure to the rabies virus by aerosols in caverns, sub infectious doses of the virus and sub clinical infection should be researched with a view to determine pathogenesis in such animals.