

ORT_26 - Seroprevalence of hantavirus infection in brazilian atlantic forest bats

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Introduction: Hantaviruses are responsible for (re)emerging zoonotic infections and constitute a global public health problem. Transmission to humans is associated with infected rodents, but several hantaviruses have been identified in bats, still without zoonotic association. There is serological evidence of hantavirus (HV) circulation in neotropical bats in the Americas, but the viral variant is unknown. To date, a few serological studies on bat-borne hantaviruses were conducted to detect antibodies against Nucleoprotein (NP) from different hantavirus species. The NP is the main diagnostic antigen, due to it being highly immunogenic and abundantly detected in early infections. However, as the genome of Brazilian bat-borne HV was never sequenced, the NP appropriate to the diagnosis remains unknown.

Objectives: To evaluate the seroprevalence of hantavirus infection in chiropteran samples collected in the Brazilian Atlantic Forest.

Methodology: Samples from different Brazilian Atlantic forest areas were tested by ELISA against the recombinant NP of *Andes* and *Seoul* rodent-borne HVs, associated with human disease, and of *Xuan Son* and *Brno* bat-borne HVs from Asia and Europe, respectively. The cutoff value was based on the reactivity of tested samples against a nonrelated antigen (Streptavidin).

Results: The tested samples were from the state of Bahia (153), Rio de Janeiro (59) and Santa Catarina (18). Remarkably, our preliminary results reveal that 66% of samples were reactive against *Brno loanvirus*, presenting a possible cross-reactivity against other tested HV, that ranged from 7.9% to 28%. Regarding the serological evaluation of reactive bats, it was possible to identify 14 species.

Conclusion: Our preliminary results demonstrate a high prevalence of hantaviruses in bats from different fragments of the Brazilian Atlantic Forest, with a prevalent response against *Brno loanvirus*. This data suggests that the HV specie here is similar to Europe's bat-borne hantavirus and reinforce that the use of recombinant NPs of rodent-borne HV to cross-detect antibodies against bat-borne hantaviruses could lead to an underestimation of the real reactivity, resulting in low-sensibility strategies.

Keywords: serological analysis, hantaviruses in bats, cross-reactivity