

## **MOLECULAR AND EPIDEMIOLOGICAL ASPECTS ON ORTHOPOXVIRUS IN HUMANS AND CATTLE IN THE STATE OF RIO DE JANEIRO.**

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In 1999 the first strains of Orthopoxvirus have been isolated and identified in the north of the state of Rio de Janeiro, in the municipality of Cantagalo, by the Federal University of Rio de Janeiro and our Laboratory at the Oswaldo Cruz Foundation. Along the next years to now, our group has isolated new virus strains associated with human and animal infections in the municipalities of Aperibe, Cambuci, Cantagalo, Miracema e Cordeiro. Partial sequencing of the gene HA of these strains show a similarity with the vaccinia virus used for the preparation of smallpox vaccine by the Instituto Oswaldo Cruz, in the decades of 60 and 70s of the last century. Similar infections have been observed more recently in the municipalities of Barra do Piraí, in the south of the state, showing that the poxvirus infections are disseminated in the state as an emergent disease affecting humans and dairy cattle, with important economic losses. A neutralization plaque reduction for vaccinia virus has been established in the Laboratory and orthopoxvirus antibodies have been determined on the patients and animals. PCR tests for have been also established and confirm the identity of the isolated viruses A project of collection of rodents on the affected areas have been also introduced, with the collaboration of the Department of Tropical Medicine of the Institute. Molecular and plaque reduction tests are being applied to the rodent specimens and the final results will be presented. An evaluation of the results and the epidemiological aspects of orthopoxviruses in the state and possible measures of control of the infection will be also presented.

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