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ACUTE NEUROLOGIC DISEASE IN *PORCINE RUBULAVIRUS* EXPERIMENTALLY INFECTED PIGLETS

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Background & objectives

The objective of this study was to evaluate the clinical disease, humoral response and viral distribution of recent *Porcine rubulavirus* (PorPV) isolates in experimentally infected pigs.

Material & Methods

6-piglet (5-days old) groups were employed (G1-84, G2-93, G3-147, and G4-T). Three viral strains were used for the experimental infection LPMV/1984, Mich/147/2013 y Qro/93/2013. Each strain was genetically characterized by amplification and sequencing of the gene encoding hemagglutinin-neuroamidase (HN). The inoculation was performed through the oronasal and ocular routes. Subsequently, the signs were evaluated daily and necropsies were performed on 3 different days post infection (dpi). We recorded all micro- and macroscopic lesions. Organs from the nervous, lymphatic, and respiratory system were analyzed by quantifying the viral RNA load and the presence of the infectious virus. The presence of the viral antigen in organs was evidenced through immunohistochemistry.

Results

In the characterization of gene HN, only three substitutions were identified in strain Mich/147/2013, two in strain LPMV/1984 (fourth passage) and one in strain Qro/93/2013. Neurological alterations associated with the infection were found in all three experimental groups starting from 3 dpi. Groups G1-84 and G3-147 presented the most exacerbated nervous signs.

Discusssion & conclusión

The main histopathological findings were the presence of a mononuclear inflammatory infiltrate. PorPV and RNA distribution were identified in the organs of the nervous, lymphatic, and respiratory systems of the piglets analyzed at different times. The viral antigen was detected in the brain and lungs in most of the assessed groups. Seroconversion was evident in groups G1-84 and G2-93. Groups G1-84 and G3-147 were the most clinically affected by the experimental infection. Both strains were isolated in the state of Michoacán. The virulence of the new isolates maintains similar characteristics to those reported more than 30 years ago.