TITLE: TECHNIQUES ASSOCIATION TO THE DIAGNOSIS OF *Mycoplasma hyopneumoniae*

AUTHORS: ARAÚJO, E.N[1]; ASSAO, V.S[1]; SCATAMBURLO, T.M[1]; PEREIRA, C.E. R[2]; SANTOS, M.R[1]; GUEDES, R.M.C[2]; MOREIRA, M.A.S[1]; ROSADO, N.C.L[1]; SILVA JUNIOR, A[1].

INSTITUTIONS: [1]Federal University of Viçosa. Viçosa - Minas Gerais, Brazil. [2]Federal University of Minas Gerais. Belo Horizonte – Minas Gerais, Brazil.

ABSTRACT

Enzootic Pneumonia (EP) is chronic respiratory diseases caused by *Mycoplasma hyopneumoniae* (Mhyo). EP causes significant economic losses in the pig production systems due to weight loss, drugs spending and reduction in the price of the meat. Some lungs lesions are suggestive of EP, like macroscopic consolidation areas located in the cranioventral part of the lungs, extremely caudally, which color may change from purple to gray. This work has the purpose make an association of different technique to improve of the diagnosis of EP, this study had the aim of detected the Mhyo associated with microscopic lesions. 266 swine lung samples were collected at a slaughterhouse in the state of Minas Gerais. All lung samples had macroscopic lesions suggestive of EP. 86.5% of the samples were PCR positive to Mhyo. 68 PCR positive samples were selected for histopathological evaluation and we performed a semiquantitative evaluation of the degree of lung lesion. The results showed that all PCR positive samples selected had microscopic lesions suggestive of Mhyo infection, although 5.9% of the samples were classified as minimum degree, 38.2% discrete degree, 38.2% moderate degree and 17.7% intense degree. The most frequent degree of lung lesion among the samples were discrete and moderate degree. Based on the results from PCR and histopathology we performed a fluorescent in situ hybridization (FISH), this histochemical technique was used to detect a specific nucleic acid sequence of Mhyo. 91 lung samples were tested using FISH, and 73% of the samples were positive. Our results showed that the association of these techniques shows a reliable result for the diagnosis of EP (86.5% PCR positive samples, 100% of the samples showed histopathological lung lesions and 73% FISH positive samples). Considering that field animals are exposed to several respiratory pathogens, the combination of these techniques may increase the reliability in the diagnosis of *Mycoplasma hyopneumoniae.*

KEY WORDS: *Mycoplasma hyopneumoniae*, FISH, Enzootic Pneumonia, diagnosis.

DEVELOPMENT AGENCY: CAPES, CNPq e FAPEMIG.