SPECIFIC FLUORESCENCE AGAINST MYCOPLASMA HYOPNEUMONIAE IN PNEUMONIC LUNGS OF PIGS IN MEXICO

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Introduction:

Pneumonic problems in pigs play an important role in porcine production, being pneumonia by mycoplasmas an affection that is - - - particularly important.

In Mexico, the incidence of characteristic lesions of pneumonia in lungs collected at slaughterhouse is 20-30%, having as bacterial agent Pasteurella multocida, which was found -in 27.4%, it is probably a secundary agent, (Pijoan, Ochoa y Trigo, 1976). Nevertheless in agreement to the field lesions and histopathological findings, and having present that Mycoplasma hyopneumoniae is able of itself to unchain a pneumonic process, it is consider that this agent exists in the country. However only the identification of Mycoplasma hyorhinis, (Ciprián, A., Ochoa, G. and Pijoan, C.) has been reported.

Due to this agent's characteristics, its isolation is difficult, because of which it is better to utilize some serologic test to the diagnostic of mycoplasma. Of these the following are used: complement fixation test (C.F.), enzime linked immunosorbent assay (ELISA), indirect hemagglutination (H. I.); immunofluorescence (F.A.) direct and indirect. Of these, the complement fixation test and ELISA are considered the most specific. Nevertheless, the immunofluorescence has been used satisfactorely by some authors (L'Ecuyer and Boulanger, 1970; Meyling, 1971; Pijoan, 1973; Giger, et al, 1977), finding some advantages to its use which are: its high specificity and the high correlation between fluorescence and isolation.

The present work intended to stablish the presence of Mycoplasma hyopneumoniae in Mexico, using the indirect immunofluorescence technique.

Materials and Methods:

100 specimenes of pneumonic lungs were collected from several supply centers in the metropolitan zone, in a period comprised between august and october 1981. These specimenes were frozen immediately to -70°C. Subsequently these were cut at a thichness of 8 µ using a cryostat at -20°C, trying to include bronchus and bronchioles in the cut. These were then fixed in absolute ethanol for 10 minutes. The antiserum against Mycoplasma hyopneumoniae was proportioned by the Veterinary Medical Research Institute, College of Veterinary Medicine, Iowa State University, and was used at a dilution of 1:20. The rabbit antigammaglobulin prepared in goats was marked with fluorescein at a dilution of 1:30. The cuts were put in contact with the antiserum and were incubated in a moist chamber at 37°C for 30 minutes. They were then washed in phosphate buffered saline (P.B.S.) 10 minutes. Subsequently the conjugate of fluorescein was added in the same way. The same was done with the controls, substituting only the antiserum for normal rabbit serum.

A binocular microscope (Carl Zeiss WL), equipped with dark field condenser and HBO 200 W14 mercury vapor lamp, blue excitatory filter (BG12) and a yellow filter of suppresion (50), was used for the test.

Results:

Specific fluorescence was observed in 23 specimens. This fluorescence was appreciated in the epithelial surface of bronchus and bronchioles from the preparation.

Conclusion:

The presence of Mycoplasma hyopneumoniae in Mexico was determined by means of this technique in 23% of pneumonic lungs.

Selected references:

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