SPECIFIC FLUOROSCENCE AGAINST MYCOPLASMA HYOPNEUMONIAE IN PORCINE 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 slaughterhouses is 20-30%, having us bacterial agent Pasteurella multocida, which was found in 27.9%. It is probably a secondary agent, (Pijjoan, 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 maintain a pneumonic process, it is considered that this agent exists in the country. However only the identification of Mycoplasma hyopneumoniae (Ciprian, A., Ochoa, G. and Pijjoan, 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 diagnosis of mycoplasmas. Of these the following are used: complement fixation test (C.F.T.), enzime linked immunosorbent assay (E.I.A.), indirect hemagglutination (I.H.A.) immunofluorescence (I.F.A.) direct and indirect. Of these, the complement fixation test and ELISA are considered the most specific. Nevertheless, the immunofluorescence has been used successfully by some authors (Lambert y Soulier, 1970; Keyling, 1971; Pijjoan, 1971; Sigury, et al., 1977); finding some advantage to its use which are its high specificity and the high correlation between fluorescence and isolation.

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

Materials and Methods

100 specimens of pneumonic lungs were collected from several supply centers in the metropolitan area, in a period comprised between August and October 1981. These specimens were frozen immediately to -70°C. Subsequently they were cut at a thickness 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 antisera against Mycoplasma hyopneumoniae was prepared by the Veterinary Medical Research Institute, College of Veterinary Medicine, Iowa State University, and was used at a dilution of 1:50. The rabbit antiserum was prepared in guinea pigs with fluorescein at a dilution of 1:10. The cuts were put in contact with the antigens and were incubated in a moist chamber at 37°C for 30 minutes. They were then washed in phosphate buffer saline (P.B.S.) 10 minutes. Subsequently the conjugate of fluorescein was added in the same way. The same was done serially, substituting only the antisera for normal rabbit serum.

A binocular microscope (Carl Zeiss WL), equipped with dark field condenser and HBO 200 W/4 mercury vapor lamp, blue excitation filter (365) and a yellow filter of suppression (560) 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: