INCIDENCE OF TOXOPLASMA ANTIBODIES IN MEXICAN PIGS

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INTRODUCTION.

As it is known, pneumonia in pigs is a disease spread all over the world which causes strong economic losses because of the high morbidity and mortality associated with it in most cases. The ethiological agents are several, and among them we can find - - - Toxoplasma gondii. The symptoms of an - - - infection with T. gondii in pigs are very similar to those produced by Haemophilus pleuropneumoniae, although the former is not mortal if controled on time.

In Mexico there seems to be no report of the incidence of T. gondii in pigs. Because of this, it was decided to determine the - - - incidence of this disease, in order to make farmers aware of the problem if this incidence is high.

Until recently, the detection of antibodies against T. gondii was performed by a time consuming and difficult immunofluorescence test. Today, agglutination in latex method is used extensively.

METHODS.

We obtained 102 blood samples at random from pigs from farms at Michoacan, Guanajuato, Sonora, Sinaloa and state of Mexico; and 206 samples from the Naucalpan, Tlanepantla and Cuautitlan slaughter houses near Mexico city (these slaughter houses receive animals from all over the country). Each of the 308 samples were tested for antibodies against T. gondii by means of the latex agglutination method in microtiter plates. This microtiter method was improved in Japan, increasing its accuracy and convenience if compared with hemagglutination or immunofluorescence tests.

Antigens extracted from Toxoplasmosis gondii have been absorbed onto polystyrene latex.

The samples were taken by giving a cut to the ear or the tail or by collecting blood by a syringe and infiltrate the blood into the infiltration section of the blood sampling paper. The excess blood was spreaded out on the diffusion section, to make the absorbed volume equal. After that, the paper was dried for 3-5 hours. The infiltration - - section was then detached from the diffusion section, and divided into 5-6 sections which were put into a tube; 0.3 ml of a buffer solution were added and kept for 60 minutes under room temperature. The resulting - - solution was the 8-fold dilution of the serum.

In case of lack of blood sampling paper, the procedure can be made by taking 0.05 ml of the test serum and adding 0.35 ml of the buffer solution to obtain the 8-fold dilution of the test serum.

Test method for each sample and positive controls:

1) 0.025 ml of the buffer solution were - - dropped to each well (1-9) of the U-shaped - micro-titer tray (well No. 9 was left as control without serum)
2) Using a 0.025 ml diluter, the 8-fold sample was diluted to make the 16- to 2,048-fold solutions.
3) 0.025 ml of the latex antigen were added to each well.
4) The tray was aggitated for an hour and kept under room temperature over-night.
5) Reading the titer.

Reading was done according to the precipitation shape of the latex under the following criteria: The antibody rate was shown by the numer of the dilution rate when the solution had cleared the following criteria 1(+).

Criteria

3 (+)	The rim of the precipitated latex was turning up and waving
2 (+)	The precipitated latex was spreading over the well
1 (+)	The precipitated latex was spreading but smaller than the criteria 2 (+)
0.5(+-)	More manifest precipitation than 0 (-) occured
0 (-)	Small and clear round precipitation of the latex occured

Judgement	Antibody rate
Negative	< 32
Pseudo-positive	$= 32$
Positive	≥ 64

RESULTS.

The results indicated a very low incidence of the disease in pigs in Mexico, only 2 random samples (0.64%) were positive.

CONCLUSIONS.

Toxoplasma gondii does not seem an important ethiological agent in the production of pneumonia in pigs in Mexico, although it is an important problem in Japan and other countries.