

SEROLOGICAL SURVEY ON *Mycoplasma gallisepticum* BY TUBE AGGLUTINATION TEST IN CHICKENS IN TANGERANG AND BOGOR DISTRICTS

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SUMMARY

A tube agglutination test was used to survey the *Mycoplasma gallisepticum* antibodies in 96 chickens in Tangerang and Bogor districts. Serum samples were collected from 76 native chickens and 20 layer/broiler chickens. Positive reactions were demonstrated in 3.9% of native chickens and 25% of layer/broiler chickens.

INTRODUCTION

Mycoplasma gallisepticum (Mg) is the primary cause of chronic respiratory disease (CRD) of chickens and infectious sinusitis of turkey (Jordan, 1979; Yoder, 1984). Transmission of Mg has been shown to occur vertically in the eggs (Glisson and Kleven, 1985) or horizontally by direct contact (Hungerford, 1969).

Ronohardjo reported that infection of Mycoplasmosis was detected in layer and native chickens (Ronohardjo P., 1974). Mg in chickens in Indonesia was isolated successfully by Sri Purnomo in 1980.

For detection of Mg infected chickens, serological tests: rapid agglutination test, tube agglutination test, haemagglutination inhibition test, agar gel precipitation test and also ELISA (Ansari, et al., 1983; Hofstad, et al., 1972; Tully and Whitcomb, 1979) were applied regularly.

This survey was undertaken to elucidate Mg infectious features in native, layer/broiler as well as SPF chickens by using tube agglutination test.

MATERIALS AND METHODS

Sample

Total of 96 sera were obtained from chickens in Bogor and Tangerang. Serum samples were collected from 76 native chickens in 1988 and 20 layer/broiler chickens in 1987. Seven sera obtained from SPF chickens raised in our laboratory were used as negative control.

Antigen

The commercial antigen of Mg (Nisseiken co. Ltd., Japan) was used in this survey.

Tube Agglutination Test

Two fold serial dilution in amounts of 0.25 ml of each samples were made. An equal amounts of diluted antigen (1 : 12.5) was added to each dilution. After shaking, the mixtures were incubated in water bath at 37°C for 2 hours and kept in refrigerator at 5°C overnight. The highest dilution showing the titer more than 1 : 10 was regarded as positive.

RESULTS

Three kinds of chickens consist of native, layer/broiler and SPF chickens were examined. Mg antibodies in native chickens were observed in two districts (Bogor and Tangerang), but layer/broiler chickens were observed only in Bogor district.

In native chickens, one of 43 sera (2.3%) from Bogor district and two of 33 sera (6%) from Tangerang district were positive. In layer/broiler chickens from Bogor, positive rate considerably higher (25%). It was demonstrated that Mg antibody was not detected in 7 SPF chickens.

DISCUSSION

Mycoplasma gallisepticum is pathogen in chicken and turkey and causes economic losses in poultry (Jordan, 1979; Yoder, 1984).

Table. Results of tube agglutination test of *Mycoplasma gallisepticum* in chicken

Chicken	Location	No. of sera tested	Tube agglutination test		Positive rate (%)
			Positive	Negative	
Native	Bogor	43	1	42	2.3
	Tangerang	33	2	31	6.0
Layer/Broiler	Bogor	20	5	15	25.0
SPF	Bogor	7	0	7	0

Using rapid agglutination test. Sri Purnomo reported that serum samples obtained from breeding farm in Jakarta and Bogor had positive rate in 11.7% (Sri Purnomo, 1979), while authour obtained positive rate 25% in the same district.

Positive rate of tube agglutination reaction in native chickens were 2.3% - 6% in range with an average of 3.9% positive. It is considered that the positive reaction in native chickens due to natural infection because no vaccination were conducted any way. In SPF chickens the positive reaction not occured. This evidence suggested the SPF chickens which use for assays purpose in our laboratory is Mg free.

These results were obtained from few samples and in resticted area. Further study is needed to elucidate the serological feature of Mycoplasmosis in Indonesia.

ACKNOWLEDGEMENTS

The authour wish to thank Dr. M. Nakamura of National Veterinary Assay Laboratory Tokyo, Japan for supplying the antigen and his technical guidance.

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