

Current Status of Brucellosis in Cattle at Various Government Livestock Farms in Punjab

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ABSTRACT

Seroprevalence of brucellosis in 1377 cattle during 1998-99 was carried out by performing RBPT and SAT tests. RBPT recorded the seroprevalence in 53 (3.84%) samples. Out of these RBPT positive only 7 (0.50%) serum samples were found positive reactors, 8 (0.58%) doubtful and 38 (2.75%) negative when applied SAT test.

Key Words: Brucellosis; Government Livestock Farms; Seroprevalence; Rose Bengal plate test; Serum agglutination tube test.

INTRODUCTION

Brucellosis is a contagious disease of dairy cattle characterized by abortion, retained placenta and infertility. It is one of leading zoonotic disease. The importance of brucellosis is primarily due to its public health significance and heavy economic losses to animal industry, WHO (1971). Qureshi and Masood (1988) reported the incidence of brucellosis as 14.3 percent and about 1.42 percent recorded by Rashid *et al.* (1990) in Pakistan.

The objective of this study was to investigate the current status of brucellosis in cattle at various Government Livestock farms in the Punjab.

MATERIALS AND METHODS

A total of 1377 blood serum of cattle were collected from various Government Livestock farms during 1998-99. All the serum samples were screened by Rose Bengal plate test (RBPT) as described by Brown (1974) and those found positive for brucellosis were further tested by serum agglutination tube (SAT) test for the detection of antibody titer as suggested by Stenshorn *et al.* (1985). The results of agglutination in SAT test were determined by reading the degree of clearing and sedimentation of the tubes. A titer of 1:40 (i.e. 50% agglutination at 1:40) or above was indicative of infection where as 50% or above reaction in titer of 1:20 was considered a suspicious. A titer of 1:10 was treated negative as per recommendations of FAO /WHO Expert Committee on brucellosis. Alton *et al.* (1975).

RESULTS AND DISCUSSION

Out of 1377 serum samples screened, 53 (3.84%) were positive by RBPT and these samples were

subjected to SAT test. Out of 53 RBPT positive samples 7 (0.50%) showed 50% or more reaction in 1:40 titer and considered positive reactors for brucellosis, 8 (0.58%) revealed 50% or more reaction 1:20 and declared suspicious, 38 (2.75%) showed 1:10 antibody titer and treated as negative for brucellosis. RBPT recorded high prevalence of Brucella positive animals than SAT test. The higher Brucella detection rate by RBPT may be attributed to the new specific agglutinins for Brucella. The non specific agglutinins has been demonstrated in the sera of animals with history of brucellosis by Hess and Roepke (1951).

The present overall incidence recorded is in line with observation of Sheikh *et al.* (1967) who found 0.65% incidence of brucellosis in Pakistan but not in agreement with the study of Sarkar *et al.* (1987) Navarro *et al.* (1997) and Rejeswari *et al.* (1998). They

Table I. Observation of RBPT and SAT and their interpretation

Tests	Total No. of animals	Positive test results	Positive %age	Interpr-etations
RBPT	1377	53	3.84%	Screened for SAT
SAT	53	Titres	-	-
		1.40 = 7	0.50%	Positive
		1.20 = 8	0.58%	Suspicious
		1.10 = 38	2.75%	Negative

observed higher incidence i.e. 18.32, 4.2 and 6.8 percent respectively during investigation of brucellosis among cows and buffaloes of organized Government and rural farms. Lower incidence of brucellosis during present year, 1998-99 might be due to segregation or culling of the positive reactors which resulted in lower prevalence of this disease.

CONCLUSION

It is concluded that although brucellosis is widely distributed but its lower prevalence suggest that this disease can be eradicated by regular testing and slaughtering of the reactors.

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