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Prevalence of Antibodies to Brucella in Sheep and Goats of Punjab Region

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Abstract: Seroprevalence of brucellosis in 1495 goats and 2113 sheep during 1995-96 to 1999-2000 was carried out by performing serum agglutination tube test. In sheep 31 (1.46%) and in goats 29 (1.93%) were found positive when applied SAT. Prevalence of antibodies to Brucella was higher in goats as compared to sheep.

Key words: Brucellosis, seroprevalence, serum agglutination tube test, sheep and goat

Introduction

Detailed information on the prevalence of diseases is the key factor for effective disease control strategies. Information on the prevalence of brucellosis, an important disease having public health significance and economic loss to the animal industry WHO (1971) as well, in small ruminants have rarely been studied in Pakistan. Therefore, the serological survey of brucellosis was under taken among the sheep and goats at various organized government farms of livestock besides some privately owned einenais.

Materials and Methods

A total of 3608 blood samples were collected comprising of 1495 goat and sheep 2113 were screened for Brucella agglutinins (Table 1). Blood was collected directly from jugular vein and serum separated aseptically. Concentrated antigen for serum agglutination tube test (SAT) were obtained from Veterinary Research Institute, Lahore, Pakistan. All the serum samples were tested by SAT for the detection of antibody titre as described by Stemshorn *et al.* (1985). The results of agglutination in SAT were determined by reading the degree of clearing and sedimentation. A titre of 1:40 (i.e. 50% agglutination at 1:40) or above was indicative of infection where as 50% or above reaction in titre of 1:20 was considered as doubtful. A titre of 1:10 was treated negative as per recommendations of FAO/WHO Expert Committee on brucellosis (Alton *et al.*, 1975).

Results and Discussion

In sheep the overall positive percentage was 31 (1.46%) while it was 29 (1.93%) in goats. Infection rates were higher in goats than in sheep but there was no significant difference between the species when applied SAT.

Table 1: Prevalence of antibodies to Brucella in sheep and goats

Source	No. of samples	Doubtful	SAT	
			+ve	-ve
Sheep	2113	-	31 (1.46%)	2082
Goat	1495	-	29 (1.93%)	1466
Total	3608	-	60 (1.6%)	3548

Similar study was conducted by Qureshi and Masood (1988) and reported incidence of brucellosis as 21% in goats and 1.3% in sheep.

Brisibe *et al.* (1996) recorded a prevalence of 3.3%, in sheep and 4.5 % in goats and Dessai *et al.* (1995) found incidences of brucellosis as 4.9 and 7.6% respectively in sheep and goats which is considerably higher than the present study. The present findings support the information provided by Dessai and Krishnappa (1991) who reported more non-specific reactions against *e. melitensis* which resulted in relatively high positive percent in goats as compared to sheep.

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