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RSEARCH PAPER

Clinico-heamatological studies in goats infected with mastitis

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ABSTRACT

In the present investigation, clinico-haematological parameters were studied in goats suffering from mastitis. Infected goats showed clinical symptoms such as weakness, anaemia, reduced milk production, elevated body temperature and swelling, redness or heat in infected teats. Infected goats revealed significantly decreased leukocyte (4.76 ± 0.67), neutrophil (24.02 ± 1.70) and phagocytic activity (36.88 ± 1.82) but significantly increase in the serum (21.88 ± 1.36) and milk immonoglobulins (12.80 ± 1.22) levels were revealed in affected goats.

Key words : Clinico-haematological studies, Goat, Mastitis, Anaemia.

Mastitis continues to be the bane of many goats owners across the globe. It is responsible for major financial losses in dairy farming and for the culling of many goats. Once goats become infected they pose significant problems. When infection has become established, it is difficult to remove and the infected goats are potential source of infection to other goats. The present study, therefore, planned to study the changes in haematological and immunological parameters during naturally occurring cases of mastitis in goats.

MATERIALS AND METHODS

In the present study, ten positive goats aged between 2 to 4 years, naturally infected with mastitis were selected also determined using the same methods. Data were statistically analysed by factorial completely randomized design (FCRD) method as per described by Snedecor and Cochran (1994).

RESULTS AND DISCUSSION

Goats suffering from mastitis showed clinical symptoms of weakness, anaemia, reduced milk production, elevated body temperature and swelling, redness or heat in infected teat. The mean values of leukocytic, immunological and phagocytic changes in blood and milk of sublinical mastitis goats are shown in Table1. Significant decrease in total leukocyte count (4.76 ± 0.67), neutrophil (24.02 ± 1.70) and phagocytic activity (36.88 ± 1.82) were

Table 1 : Mean values of haematological and immunological parameters

Sr. No.	Parameters	Mean value in infected goats	Mean value in healthy goats
1.	Total leukocyte count	4.76 ± 0.67	10.92 ± 0.60
2.	Neutrophil (%)	24.02 ±1.70	33.83 ± 0.64
3.	Lymphocyte (%)	67.00 ±2.0	58.83 ± 0.94
4.	Phagocytic activity (%)	36.88 ± 1.82	42.33 ± 1.13
5.	Serim immunoglobulins (mg/m)	21.88 ± 1.36	16.33 ± 1.36
6.	Milk immunoglobulins (mg/m)	24.02 ±1.70	10.92 ± 0.60
		12.8 ± 1.22	6.33 ± 0.95

Infection was diagnosed on the basis of California Mastitis Test (CMT) for the estimation of haematological parameters. Blood was collected from jugular vein and analysis of TLC and DLC as per routine laboratory procedures while phagocytic activity (Malik, 1996) and serum and milk immunoglobulins by zinc sulphate turbidity test (Pfeiffer *et al.*, 1997). Haematological profiles of 02 healthy goats free from mastitis (healthy control) were observed as compared to healthy control goats. This diapedesis of leukocytes leads to leucopenia as reported by Sordiollo *et al.* (1997). The values of phagocytic activity was noted lower than normal goats. Significant rise in serum value, milk value and immunoglobin levels revealed in affected goats throughout the experimental period. Caffin *et al.* (1983) reported that increase in immunoglobulins (12.80 ± 1.32) in serum may be due to