

REPORT ON AN OUTBREAK OF BABESIOSIS IN TELLICHERRY GOATS

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ABSTRACT

The prevalence of Babesia infection was studied in newly purchased Tellicherry goats from Thalasserry, Kerala State to a private goat farm at Chennai. A total number of 168 goats were examined for the presence of Babesia. The study revealed that 58 (34.5%) goats were infected with Babesia ovis. The prevalence of Babesia infection between males and females and different age groups of goats was non-significant. Infected goats showed varying clinical signs of inappetence, depression, increased respiratory rate, weakness, coughing, nasal discharge, ocular discharge, diarrhea, body temperature ranging 39.5- 41.2°C and abortion. Blood parameters revealed decrease in total red blood cells (RBC) count, haemoglobin concentration (Hb), Volume of packed red cells (VPRC), platelets counts and increase in lymphocyte and neutrophil count.

Keywords: Tellicherry Goat, Stress, *Babesia ovis*, *Babesia motasi*,

Babesiosis is caused by unicellular *Babesia* parasites that invade and proliferate in the red blood cells of vertebrate hosts transmitted by ticks.

Babesia parasites are widely distributed and have a considerable economic, veterinary and medical impact worldwide. *Babesia* species that causes severe economic losses among sheep and goats in tropical and subtropical areas are *Babesia ovis* and *B. motasi* are transmitted by *Rhipicephalus* ticks

(*R. bursa*) and is highly pathogenic especially in sheep with mortality in susceptible hosts ranging from 30% to 50% in field infections (Hashemi, 1997). *B. motasi* is of moderate virulence and the acute form of the disease is manifested by anorexia, fever, and fast and audible heart beats, pallor of the mucous membranes, icterus and haemoglobinuria. It is transmitted by *Haemaphysalis* ticks. *B. motasi* is recognised as pathogenic for small ruminants. The present paper describes alteration in haematological parameter of goats

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associated with stress induced babesiosis outbreak.

A total number of 168 Tellicherry goats, one to three years of age in an organized goat farm at Chennai were selected for this study. Some of the animals started showing signs of high fever (39.5 – 41.2 °C) along with coughing, nasal and ocular discharge, diarrhea and haemoglobinuria. Presence of ticks were noted on different parts of the body. Peripheral blood smears were taken from tip of the ear and stained with Giemsa. About 2 ml of whole blood was collected from jugular vein for haematological parameters like total red blood cells (RBC), haemoglobin concentration (Hb), White blood cells (WBC) and differential leukocyte count (DLC). Diagnosis was made by clinical observation and blood smear examination.

Of the 168 goats screened, 58 (34.5%) goats were infected with *Babesia ovis*. Of the infected goats ten males (17.2%) and forty eight females (82.7%) were infected. Infected goats showed varying clinical signs of inappetence, depression, increased respiratory

rate, weakness, coughing, nasal discharge, ocular discharge, diarrhea, body temperature ranging 39.5- 41.2°C and also abortion in two pregnant does. The clinical signs observed in goats were in agreement with the result of Kozat *et al.* (2003)

There was a significant decrease in the haematological parameters such as total red blood cells count (3.91 ± 3.15), haemoglobin concentration (8.87 ± 1.02), packed cell volume (28.24 ± 3.24) and platelet counts (422 ± 96.25). These results were in agreement with those of Opasine (1984) and Alami and Herbert (1998). Neutrophil (63.93 ± 2.06) and Lymphocyte (36.25 ± 3.41) counts were found to increase significantly. The significant increase in lymphocyte and neutrophils were in agreement with those of Kozat *et al.* (2003). The demonstration of *Babesia ovis* in thin or thick smears made from peripheral blood and stained with Giemsa confirmed the disease (Bakheit *et al.* 2007). Prevalence of babesia infection between male and female goats and different age group of goats were not significant statistically.

Table – 1: Haematological parameters of goats infected with babesiosis.

Haematological parameters	(Mean ± SE)
RBC (10 ⁶ /microliter)	3.91 ± 3.15
Hb (g/100 ml)	8.87 ± 1.02
PCV (%)	28.24±3.24
Platelets (10 ³ /microliter)	422±96.25
Neutrophils %	63.93 ± 2.06
Lymphocytes %	36.25 ± 3.41

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