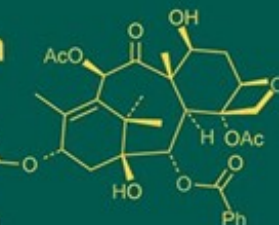
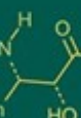
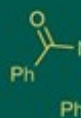
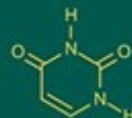


International Journal of Advanced Biochemistry Research



ISSN Print: 2617-4693
ISSN Online: 2617-4707
NAAS Rating (2026): 5.29
Indexing: Embase
IJABR 2026; SP-10(9): 2185-2186
www.biochemjournal.com
Received: 04-07-2026
Accepted: 20-08-2026
Published: 25-09-2026

SS Mehesare

Assistant, Professor
Department of Medicine, MGM
Dr. Rajendra Suryawanshi college of veterinary and Animal
Sciences, Gandheli,
Chhatrapati Sambhajnagar,
Maharashtra, India

SM Khupse

Subject Matter Specialist,
Livestock Production, MGM,
KVK, Gandheli, Chhatrapati
Sambhajnagar, Maharashtra,
India

YN Patil

Assistant Professor,
Department of Animal
Husbandry and Dairy Science,
MGM Nanasaheb Kadam
College of Agriculture,
Gandheli, Chhatrapati
Sambhajnagar, Maharashtra,
India.

**Corresponding Author:
SS Mehesare**

Assistant, Professor
Department of Medicine,
MGM Dr. Rajendra
Suryawanshi college of veterinary and Animal
Sciences, Gandheli,
Chhatrapati
Sambhajnagar,
Maharashtra, India

Effect of antitheatlerial drugs against sub clinical theileriasis in crossbred and indigenous cattle

SS Mehesare¹, SM Khupse², YN Patil³

DOI: <https://www.doi.org/10.33545/26174693.2026.v10.i9S.aa.10152>

ABSTRACT

Investigation was undertaken to study the incidence of sub-clinical theileriasis in crossbred and indigenous cattle in and around Chhatrapati Sambhajnagar, Maharashtra, using Giemsa's staining technique and also correlate the clinical finding, haematobiochemical changes and to see the effect of some anti-theilerial drug in sub-clinical theileriasis. The patient history, physical examination, marking on slide, recording of data remained the most crucial steps during complete study of work.

Keywords: Sub-clinical theileriasis, Indigenous cattle, Crossbred cattle, Anti-theilerial drug

Introduction**Tick- and tick-borne diseases**

Tick- and tick-borne diseases (TTBDs) represent a significant threat to global food security due to their direct and indirect effects on the development and productivity of the livestock sector (FAO, 1996) [1]. In India, the disease was first reported as early as 1905 by Lingard (Mohan, 1972) [2]. Although indigenous cattle breeds in India may not show obvious clinical signs, they can harbor latent infections and thereby serve as potential sources of infection for crossbred cattle. Even in mild cases, the disease may lead to a reduction in milk production. Zebu cattle and buffaloes may show the presence of the parasite in their blood but are generally resistant to *Theileria annulata* (Bansal et al., 1977) [3].

Calves below three months of age are more susceptible to theileriasis than adult cattle (Grewal et al., 1994) [4]. In mild forms, the disease can result in decreased milk yield, whereas severe infections may cause considerable mortality, leading to substantial economic losses for dairy farmers (Reddy et al., 1991) [5].

Materials and Methods

A total of 400 cattle, comprising 200 crossbred and 200 indigenous animals, including both adults and calves of either sex, were selected for the study. The animals were selected based on clinical examination, blood smear examination, and lymph node biopsy findings indicating subclinical theileriasis.

Effect of anti-theilerial drug

Lymph node biopsies and blood samples were collected at 0, 3, 5, 7, 21, 30, 60, and 90 days following administration of the anti-theilerial drug.

Results and Discussion**Indigenous cattle**

All eight animals that tested positive for subclinical theileriasis were administered combination therapy consisting of oxytetracycline at 5 mg/kg body weight intramuscularly (I/M) along with diminazine aceturate at 5 mg/kg body weight I/M. Supportive treatment included injection B-complex with liver extract (10 ml I/M) and injectable haematinics (10 ml I/M). The parasitemia levels recorded on the 3rd and 5th days of treatment were 0.3% and 0.2%, respectively. By the 90th day, parasitemia had declined to 0%. All eight animals recovered, and no recurrence of infection was observed, corresponding to a recurrence rate of 0%.

Group A-II: Animals treated with buparvaquone

- All eight animals in this group were treated with buparvaquone at a dose of 2.5 mg/kg body weight I/M. Supportive treatment consisted of injection B-complex with liver extract (10 ml I/M) and injectable haematinics (10 ml I/M). Parasitemia was 0.3% on the 3rd day and decreased to 0% on the 5th day. However, by the 90th day, parasitemia had increased to 0.4%. Of the eight treated animals, six recovered, whereas two remained infected, resulting in a recurrence rate of 25%.

- Both treatment protocols demonstrated therapeutic effectiveness in their respective groups (Groups I and II). However, recurrence was observed at the 90-day follow-up among animals treated with buparvaquone, whereas no recurrence was detected in animals treated with the combination of oxytetracycline and diminazine aceturate. The effectiveness of the oxytetracycline–diminazine aceturate combination has also been reported by Masare *et al.* (2010) in clinical cases of theileriosis in indigenious cattle.

Crossbred cattle

- Eight crossbred cattle diagnosed with subclinical theileriosis were treated with a combination of oxytetracycline at 5 mg/kg body weight I/M and diminazine aceturate at 5 mg/kg body weight I/M. Supportive therapy consisted of injection B-complex with liver extract (10 ml I/M) and injectable haematinics (10 ml I/M). The parasitemia levels recorded on the 3rd and 5th days were 0.6% and 0.2%, respectively. By the 90th day of treatment, parasitemia had reached 0%. All eight animals recovered, and no recurrence was observed.

- The remaining eight animals were treated with buparvaquone at 2.5 mg/kg body weight I/M along with the same supportive therapy, consisting of injection B-complex with liver extract (10 ml I/M) and injectable haematinics (10 ml I/M). Parasitemia was recorded at 0.5% on the 3rd day and 0% on the 5th day. At the 90th-day follow-up, parasitemia was 0.6%. Of the eight animals, five recovered, while three remained infected, resulting in a recurrence rate of 37.5%.
- Both therapeutic regimens showed antitheilerial activity in Groups III and IV. However, recurrence was detected at the 90th-day follow-up in the buparvaquone-treated group (Group IV), whereas no recurrence was observed in animals treated with the combination of oxytetracycline and diminazine aceturate (Group III). The efficacy of buparvaquone in the treatment of clinical theileriosis has been documented by McHardy (1991) [6], Singh *et al.* (1993) [7], and Zahid *et al.* (2005) [8]. Similarly, the therapeutic efficacy of the oxytetracycline and diminazine aceturate combination has been reported by Mishra *et al.* (1983) [9] and Dwivedi *et al.* (1984) [10].

Table 1.1. Chemotherapeutic agents against sub clinical theileriosis

Total number of 32 animals				
Group A (Indigenous)		Group B (Cross bred)		
Group I 8 animals	Group II 8 animals	Group III 8 animals	Group IV 1. 8. animals	
Oxytetracycline 5 mg / kg body weight I/M for 5days + Diminazine aceturate 5 mg / kg body wt. I/M alternate day 3 doses. Supportive therapy Inj. B-complex with liver extract 10ml I/M and Inj. haematinics 10ml I/M	Buparvaquone 2.5 mg / kg body weight I/M single dose Supportive therapy Inj. B-complex with liver extract 10ml I/M and Inj. haematinics 10ml I/M	Oxytetracycline 5 mg / kg body weight I/M for 5days + Diminazine aceturate 5 mg / kg body wt. I/M alternate day 3 doses. Supportive therapy Inj. B-complex with liver extract 10ml I/M and Inj. haematinics 10ml I/M	Buparvaquone 2.5 mg / kg body weight I/M single dose Supportive therapy Inj. B-complex with liver extract 10ml I/M and Inj. haematinics 10ml I/M	

References

- FAO. Food requirements and population growth. WFS 96/TECH/10. Provisional version of Technical paper for the World Food Summit. 1996;60p.
- Mohan RN. Bovine theileriosis detected in 1905. Haryana Veterinarian. 1972;11:26-68.
- Bansal GC, Gaur SNS, Shaw HL. Note on prevalence and cross transmission of *T. annulata*. Pantnagar J. Res. 1977;2:244-246.
- Grewal AS, Singh A, Kondal JK. *Theileria annulata* vaccination field trials at village level in young crossbred calves in the Punjab State. (1991-93) Proceedings 3rd Coordination Meeting of European Union On Tropical Theileriosis, Turkey. 1994.
- Reddy PMT, Jagannath MS, Rajashekhar M, Rahman SA. Estimation of antibody levels of cattle to *T.annulata* vaccine by avidin-biotin ELISA. 1991.
- McHardy N. Burparvaquone, A new therapeutic drug for theileriosis with comments on its value in an integrated control strategy. Proc. Of second EEC workshop on orientation and coordination of research on tropical theileriosis held at NDDB, Anand. Mar 18-22. 1991:133.
- Singh DK, Thakur M, Raghav PRS, Varshey BC. Chemotherapeutic trial with four drugs in crossbred calves experimentally infected with *Theileria annulata*. Res. Vet.Sci. 1993;54:68-71.
- Zahid IA, Latif M, Baloch KB. Incidence and treatment of theileriosis and babesiasis. Pakistan Vet. J. 2005;25(3):137-139.
- Mishra KC, Achar KC, Lama ND. Efficacy of some chemotherapeutic agents against clinical *Theileria annulata* infection in exotic cattle. Indian Vet J. 1983;60:313-318.
- Dwivedi SK, Muslih NJ, Joshi NC, Ahmed NJ. Evaluation of chemotherapeutic agents against bovine theileriosis in India. Indian Vet J. 1984;4:37-40.
- Masare PS, Bhikane AU, Syed AM, Ghoke SS, Awaz KB. Epidemiological and Clinico-Therapeutic Studied on Theileriosis in Calves. Intas polivet. 2009;10:289-292.

How to cite this article: Mehesare S, Khupse S, Patil Y. Effect of antitheilerial drugs against sub clinical theileriosis in crossbred and indigenous cattle. *International Journal of Advanced Biochemistry Research*. 2026;SP-10(9):2185-2186. doi: <https://www.doi.org/10.33545/26174693.2026.v10.i9S.aa.10152>