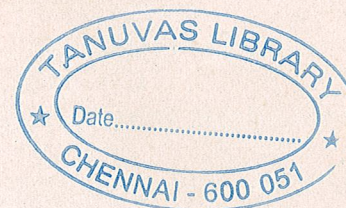


**TRAUMATIC RETICULO-PERICARDITIS IN BOVINES
A CLINICAL, RADIOLOGICAL AND
PATHOPHYSIOLOGICAL
STUDY**



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*Thesis Submitted in partial fulfilment of the requirements
for the degree of*

**MASTER OF VETERINARY SCIENCE
IN
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*to the
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Madras - 600 007*

**Department of Surgery
Madras Veterinary College**
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Madras - 600 007

1994

CERTIFICATE

This is to certify that the thesis entitled " **TRAUMATIC RETICULO-PERICARDITIS IN BOVINES - A CLINICAL, RADIOLOGICAL AND PATHOPHYSIOLOGICAL STUDY** " submitted in partial fulfilment of the requirements for the degree of "**MASTER OF VETERINARY SCIENCE** in **VETERINARY SURGERY** to the Tamil Nadu Veterinary and Animal Sciences University, Madras, is a record of bonafide research work carried out by **T. SATHISH** under my supervision and guidance and that no part of this thesis has been submitted for the award of any other degree, diploma fellowship or other similar titles of prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

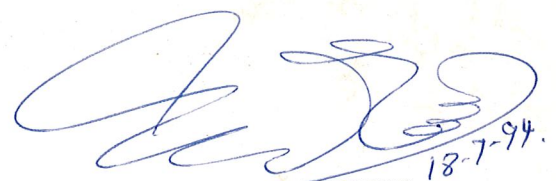
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ABSTRACT

Title : **TRAUMATIC RETICULO PERICARDITIS IN BOVINES - A CLINICAL, RADIOLOGICAL AND PATHOPHYSIOLOGICAL STUDY**

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The experimental study was carried out in eight unproductive Jersey cross cows for induction of traumatic reticulo-pericarditis. Induction of Pericarditis was carried out by performing rumenotomy and inserting a foreign body (looped wire with 3 loops at the centre and one end sharpened for easy penetration). The experiment was evaluated based on the Clinical observations, Physiological parameters, Physical tests, Haematological studies, Serum chemistry, Electrocardiographic studies and Radiographic studies.

The foreign body prepared for the present study produced pericarditis in a satisfactory manner. In this study the experimental model designed for the study of traumatic reticulo-pericarditis in adult cattle was found ideal and satisfactory.

All the animals exhibited symptoms like loss of appetite, reluctance to move down the inclined plane, abduction of elbows, pain on palpation of the xiphoid region and dyspnoea. In the experimental animals the increase in temperature, respiratory rate and heart rate was highly significant between pre and post-induction days.

Experimental animals showed response to pole test which was categorised as mild, moderate and severe degrees of withdrawal of thorax on the 7th, 14th and 21st post induction days respectively due to progressive pathological changes around the foreign body. Response to wither test was expressed as mild, moderate and strong degrees of sensitivity due to the gradual pain produced by the traction of adhesions formed between reticulum, diaphragm and pericardium. There was a highly significant increase in the total leucocyte count and neutrophils count between the pre- and post-induction days. In serum chemistry, significant increase in alanine transaminase and serum alkaline phosphatase were noticed after induction of traumatic reticulo-pericarditis. The levels of the total protein and albumin significantly decreased during the post-induction period. Electrocardiographic studies revealed marked increase in "R" wave amplitude, increase in "T" wave amplitude and shortening of S-T segment during the post-induction period.

In all the animals lateral radiographs in a standing position using 80-90 kVp and 40 mAs at 100 cm focal film distance demonstrated clearly the position of foreign body, soft tissue changes around the foreign body and adhesions between reticulum, diaphragm and heart.

In all the animals, there were firm adhesions and fibro-purulent exudate on the serous surface of the reticulum, diaphragm and heart on the gross pathological examination.

In the present study, marked necrosis at the level of perforation, adhesions on the serous surface with massive neutrophil and macrophagic infiltration, lysis of the musculature, thickening around the perforated site, fibrin exudation and organisation of exudated fibrin with mild fibrovascular ingrowths in reticulum, diaphragm and heart were recorded on histopathological studies.

On the basis of the present study it was concluded that early detailed clinical evaluation coupled with physical tests, clinico-pathologic and radiographic examinations would be helpful to arrive at proper diagnosis to evaluate cardiovascular status to forecast the prognosis.