

ISOLATION AND IDENTIFICATION OF *BRUCELLA MELITENSIS* FROM NATURALLY INFECTED GOATS*

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Key words: *Brucella melitensis* – Isolation – Goats.

Brucellosis due to *Brucella melitensis* is widespread in India and is considered to be the major cause of abortion in small ruminants producing severe economic loss (Das *et al.*, 1961; Ghosh and Verma, 1985). The loss can be averted by early detection of the disease and instituting control programme. The diagnosis of brucellosis in small ruminants requires the use of more than one serological tests (Baum *et al.*, 1995). However, the isolation of *Brucella* spp is considered to be the only unequivocal method for the confirmation (Alton *et al.*, 1988). The present communication describes the isolation of *Brucella melitensis* from naturally infected goats in Tamil Nadu.

A total of 25 female goats with the clinical signs of abortion in the suburban areas of Chennai were taken for the study. The vaginal discharges from 25 aborted animals were collected in Amies transport medium stored in icepack and transferred to the laboratory.

Isolation and identification of *Brucella melitensis* was done as detailed in Bergey's Manual of Systemic Bacteriology (1984) and OIE (2000).

The vaginal swabs were directly streaked on to the *Brucella* selective agar with

brucella selective supplement. The agar plate was incubated at 37 °C in an atmosphere of 5 % CO₂.

Further identification of the organism was done by Grams staining technique, Modified Ziehl-Neelsen staining technique (Lennette *et al.*, 1985) and agglutination with *Brucella melitensis* positive serum (VMRD, Inc. U.S.A). Biochemical characteristics viz Oxidase test (Carter and Cole, 1990), Catalase test and Test for hydrogen sulphide production, growth in the presence of basic fuchsin dyes (20 µg / ml) (Meyer and Shaw, 1984) were carried out.

Of the 25 vaginal swabs 6 isolates of *Brucella melitensis* organisms were obtained.

The colonies were round, convex with smooth margin, translucent and pale honey in colour on *Brucella* selective media. The culture smear showed Gram negative coccobacilli in Gram's staining and red stained coccobacilli in modified Ziehl Neelsen staining. Inactivated culture suspension and *Brucella melitensis* positive serum were mixed and agglutination was observed within a minute indicating that the culture was *Brucella melitensis* positive. Oxidase discs showed purple colouration after streaking the suspected colonies which indicated positive reaction. The culture tubes were observed after the addition of 3 per cent hydrogen peroxide and effervescence was observed indicating the catalase positivity. The lead acetate paper inserted in the culture tubes did not change to black colour after 4 days which indicated that

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Brucella melitensis did not produce of hydrogen sulphide. Positive urease activity was observed in Christensen's urea medium. Growth was noticed in plate with basic fuchsin.

Teixeira-Gomes *et al.*, (2000) and Guler Leyla *et al.*, (2003) isolated *Brucella melitensis* from vaginal swabs and aborted fetuses in sheep and goats. In the present study also the isolation of *Brucella melitensis* organisms from vaginal swabs in aborted goats is consistent with the reports of these workers.

ACKNOWLEDGEMENT

The authors are thankful to the Dean, Madras Veterinary College, Chennai-7 for the facilities provided during the research work.

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