

Correlation between Serological Tests and Identification of *Brucella Melitensis* in Goats

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Abstract

Brucellosis is a specific contagious disease of humans and animals caused by bacteria of the *Brucella* group, and caprine brucellosis is primarily caused by *Brucella melitensis*. In Malaysia, serological tests such as Rose Bengal Plate Test (RBPT) and Complement Fixation Test (CFT) are most widely used in diagnosis of brucellosis in small ruminants, while isolation and Polymerase Chain Reaction (PCR) provide valuable information regarding the presence of *Brucella* organism. This research was performed to evaluate and determine the correlation between serological tests (RBPT and CFT) and presence of *Brucella melitensis* in seropositive goats. Ninety-nine goat sera were collected from five goat farms and subjected to RBPT. Out of ninety-nine goat sera tested, 11(11%) were positive. They were then subjected to CFT. All RBPT seropositive goats were then killed and tissues such as supramammary lymph nodes, uterus, mammary glands and spleen were taken for isolation and identification using culture and PCR technique. The results showed that there was no correlation between the serological tests and the presence of *B. melitensis* in goats. However, there was strong correlation between RBPT and CFT ($r = 0.83$, $P < 0.01$). Therefore, neither RBPT nor CFT is suitable to be used as confirmatory diagnostic tool for control of caprine brucellosis.

Keywords: *Brucella melitensis*, serology, isolation and identification, PCR