

Seroprevalence of anaplasmosis in dairy cattle from Peninsular Malaysia

ABSTRACT

Bovine anaplasmosis also known as Red water or Gall sickness is an important disease of cattle primarily caused by *Anaplasma marginale* and it infects erythrocytes, which results to erythrophagocytosis and subsequently anaemia. This study was carried out to determine the seroprevalence of bovine anaplasmosis among dairy cattle in some randomly selected ruminant farms in Peninsular Malaysia. A total of 45 Blood samples were collected via jugular venipuncture from cattle from four (4) farms using convenient sampling technique. Twelve(12) cows were sampled from each of farms A and B, while 13 cows were sampled from farm C and 8 from Farm D. Heparinized whole blood was used to prepare Giemsa-stained thin blood smears for microscopic detection of anaplasmosis. Serum was extracted from coagulated blood for serological testing using Anaplasma antibody Test Kit (VMRD, Inc. United State of America). The result showed an overall seroprevalence rate of 51.11% (23/45). Farm level seropositivity showed 83.3% (10/12), 41.7% (5/12), 23.1% (3/13) and 62.5% (5/8) for Farms A, B, C, and D, respectively. Age specific seroprevalence showed a 53.13% (17/32) in cows that are more than 3 years old and 46.15% (6/13) in cows aged between 1-3 years. Additionally, a significant ($p < 0.05$) association between microscopic detection and serological detection method was observed. . In conclusion, a high seroprevalence rate was observed in the selected ruminant farms.

Keyword: Bovine anaplasmosis; *Anaplasma marginale*; Seroprevalence; cELISA; Microscopic detection