examination of the 80 blood films that were obtained from eight different emigrant water birds species, the results showed wide erythrocyte morphological changes ranging between the regenerative and degenerative stages.

References


Indian Vet. J., March 2013, 90 (3) : 83 - 85

Diagnosis of Brucella Abortus Infection in Dairy Animals

P.I.Ganesan

Department of Veterinary Epidemiology and Preventive Medicine, Veterinary College and Research Institute, Namakkal - 637 002, Tamil Nadu

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Brucellosis is an important endemic disease among dairy cattle in India causing severe economic losses. Regular screening of dairy cattle for sero-positivity remains as the proven method of control of brucellosis. The presence of B.abortus in genital organs seem to have an undesirable effect on semen quality and constitutes a health hazard. In a national survey of bovine brucellosis (1994-2001) by PD-ADMAS, an average of 5 per cent of cattle and 3 per cent of buffaloes were infected with brucellosis in India and in Tamil Nadu 9.3 per

The Indian Veterinary Journal (March, 2013)
cent of cattle and 0.5 per of buffaloes were affected (Renukaradhya et al., 2002). As per O.I.E (2004) there is no single test by which bacterium can be identified as brucella, hence a combination of serological and bacteriological methods are needed for diagnosis. The Dot-ELISA is an improved and facilitated technique compared with the Standard ELISA (Zimmerman et al., 1985) and it is a simple, rapid and easiest assay to detect the affected animals (Chand et al., 1989). Batra et al., (1989) recommended that Dot-ELISA for the field for Brucella eradication program. Batra and Agarwal (1998) proved the suitability of this test for field conditions by testing the animals in 3 states. M-ELISA can be used to screen the individual animals for brucellosis (Romero et al., 1995) and in sero-surveillance program (England et al., 2004). The present study evaluated the efficacy of Dot-Enzyme linked immunosorbant assay (Dot-ELISA) with Milk-Enzyme linked immunosorbant assay (M-ELISA) in the detection of B. abortus in cows with the history of reproductive disorders hygroma or arthritis.

Materials and Methods

The endemic areas for brucellosis in Tamil Nadu i.e Chennai, Theni, Coimbatore, Madurai, Vellore districts were taken up for this study. 199 crossbred cows included in the study were with the history of abortion, retained placenta membranes, repeat breeding, metritis, hygroma or arthritis. The blood samples were collected and the sera were separated, labeled and stored at -20°C for further investigations. Fresh milk samples collected under aseptic conditions were defatted and stored at -20°C for further use. Dot-ELISA. The M-ELISA were performed as per standard procedures. In this study the sensitivity and specificity of Dot-ELISA was assessed keeping Milk-ELISA as the standard test. The efficacy of Dot-ELISA and M-ELISA in the diagnosis of B. abortus infection in cattle were assessed statistically as per standard procedures.

Results and Discussion

In this study comparison of Dot-ELISA with milk-ELISA, Dot-ELISA showed 83% sensitivity and 100% specificity. Of the 199 serum and milk samples tested Dot-ELISA detected 25 samples (12.56%) as positive; M-ELISA detected 30 (15.07%) samples as positive. All the 25 samples detected as positive by Dot-ELISA were also positive by M-ELISA. 5 samples detected as negative by Dot-ELISA were positive by M-ELISA. Statistical analysis revealed significant difference p< 0.01% between the tests. In this study Dot-ELISA gave 5 false negatives when compared with M-ELISA.

Summary

In this study comparative efficacy of Dot-ELISA with Milk-ELISA was carried out in the diagnosis of bovine B. Abortus infection. For this study 199 sera and milk samples each with the history of abortion, retained placenta, repeat breeding, pyrexia, and arthritis/hygroma were collected from the animals in the endemic areas of Tamil Nadu. The samples were tested by Dot-ELISA and Milk-ELISA. Of 199 sera samples tested Dot-ELISA detected 25 (12.5%) as positives and M-ELISA detected 30 samples (15.07%) as positive. On comparison, Dot-ELISA showed 73% sensitivity and 100% specificity. All the 25 samples detected in the Dot-ELISA were also positive for M-ELISA. Five samples detected as negative by Dot-ELISA were positive by M-ELISA. Statistical analysis revealed significant difference (p<0.01%) between the tests.
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Indian Vet. J., March 2013, 90 (3) : 85 - 86

Performance of Crossbred (Hampshire X Assam Local) Pigs Maintained on Water Hyacinth Substituted Feed

R.N. Borpuzar\textsuperscript{1}, J.R. Bora, J. Das, H. Hazarika, D. Hazarika and M. Rahman

National Agricultural Innovation Project (Component - 2), College of Veterinary Science, Assam Agricultural University, Khanapara Campus, Guwahati 781 022, Assam

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Conventional feed ingredients affect profitability of pig farming as feed accounts for more than 70% of the production cost. Incorporation of locally available low cost feed ingredients may be an alternative to minimize feed cost. Water hyacinth (Eichhornia crassipes) belonging to the family Pontederiaceae is abundantly available in the vast water bodies of Assam. The leaves and stems of water hyacinth are rich in crude protein (18 % on DM basis with 1.2 % lysine), and are found to be soft and palatable to the pigs (Men et al., 2002). Water hyacinth could replace concentrate feed up to 6% in pig diet (Manh et al., 2002). An attempt was made to study the effect of feeding pigs with compound feed with 25 per cent substitution of wheat bran with dried water hyacinth on the performance of crossbred (Hampshire X Assam local) pigs.

Materials and Methods

A feeding trial was conducted on 50 female pigs of 2-3 months age in the pig farm established under the National Agricultural Innovation Project (component-2) in the Khanapara Campus of the Assam Agricultural University. The animals were randomly divided into two equal groups on the basis of their body weight. Four isonitrogenous rations were prepared for both growing and finishing stages maintained on an average of 18 and 16% crude protein, respectively. Control group (T\textsubscript{1}) was given conventional concentrate ration and

\textsuperscript{1}Corresponding author : Email : borpuzarim@yahoo.com

The Indian Veterinary Journal (March, 2013)