

A SURVEY ON EQUINE PIROPLASMOSIS IN SELECTED AREAS IN PENINSULAR MALAYSIA

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SUMMARY

A total of 242 blood samples from thoroughbreds, local ponies and bonzai breed of horses in three states in Peninsular Malaysia were screened for piroplasmosis caused by either *Babesia equi* or *Babesia caballi*. Examinations of Giemsa-stained thin blood smears revealed three positive cases for *B. caballi* among ponies from a government cattle farm. None of the ponies, however, had clinical signs of piroplasmosis.

Keywords: Piroplasmosis, horses

Equine piroplasmosis, a disease caused by either *Babesia equi* or *Babesia caballi* infection, is endemic in horses throughout most of the tropical and subtropical regions of the world (Friedhoff *et al.*, 1990). It is a tick-borne disease, clinically characterised by fever, anaemia and icterus. In India, Kumar *et al.* (1997) found that the indigenous breeds of horses, donkeys and mules are generally pre-immune carriers and rarely suffers to clinical infections. However, foreign breeds of horses imported into India suffer from equine piroplasmosis leading to great economic losses through mortality and reduced working capability. Similarly, both *B. caballi* and *B. equi* are endemic in Mongolia (Avarzed *et al.*, 1997). Zweygarth *et al.* (1997) reported that horses recovered from an acute attack of piroplasmosis due to *B. equi* become a lifelong carrier.

The local horse population, which is mainly concentrated in the east coast of Peninsular Malaysia may be harbouring a reservoir of *Babesia* spp. This poses a threat to the growing equine industry comprising imported horses. Thus, this preliminary survey was undertaken to detect the presence of piroplasmosis in the local horse population.

Three regional veterinary diagnostic laboratories in Kuantan, Kota Baru and Johore Bahru, representing the east coast of Peninsular Malaysia, collected blood samples either in EDTA or heparin tubes from horses in their respective areas. The Kuantan laboratory screened 51 thoroughbred polo horses aged between 1 and 3 years old, the Kota Baru laboratory screened 91 ponies and thoroughbreds of age ranging from 6 months to 11 years old while the Johore Bahru laboratory screened a total of 100 horses (Table 1). Horses, ponies, bonzai breeds, thoroughbreds and donkeys that were kept near cattle farms were

especially included in the survey as cattle babesiosis is endemic in Malaysia and both cattle and equine babesiosis involve the same tick vectors.

Thin blood smears were prepared, fixed in methanol and stained with 8% Giemsa for 45 min. The smears were then examined for the presence of babesia parasite in the erythrocytes. A total of 242 animals were screened and visually appraised for clinical signs of piroplasmosis.

The results of the survey are shown in Table 1. Three (1.2%) ponies (1 male and 2 females) of age between 1-2 years old, kept at a government cattle farm in Johore were found to be positive for *B. caballi*. However, none of these animals showed clinical signs of piroplasmosis.

Table 1. Prevalence of equine piroplasmosis in three states in Peninsular Malaysia

Location	Breed of animals	Total no. of samples	No. of positive samples
Johore (Johore Baru Lab)	Ponies, bonzais, thoroughbreds, Magalaga	100	3*
Kelantan (Kota Baru Lab)	Ponies, bonzais, thoroughbreds	91	0
Pahang (Kuantan Lab)	thoroughbreds	51	0

* All were positive for *B. caballi*

Babesia spp. are usually detected in blood smears during the acute stage of the infection. On recovery, the animal remains as carriers, from which the organism is difficult to find. Bovine babesiosis caused by either *B. bovis* or *B. bigemina*, transmitted by *Boophilus microplus*, is common among the cattle population in the particular farm where *B. caballi* was found in the ponies in this study (Rajamanickam, 1987). Routine control measures, like deticking, are routinely carried out to minimise incidence of babesiosis in cattle and horses.

In conclusion, equine piroplasmosis in three states in Peninsular Malaysia, in which horses are mostly found, has a relatively low prevalence as compared to other Asian countries like Mongolia or India. Further studies on the prevalence based on serological techniques are needed to assess the status of this disease in the horse population and for implementation of control measures.

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RINGKASAN

SUATU TINJAUAN PIROPLASMOSIS EKUIN DALAM BEBERAPA KAWASAN TERPILIH DI SEMENANJUNG MALAYSIA

Sejumlah 242 sampel darah daripada torughbred, kuda padi tempatan dan kuda baka bonzai dalam tiga negeri di Semenanjung Malaysia telah disaring untuk piroplasmosis disebabkan sama ada oleh *Babesia equi* atau *B. caballi*. Pemeriksaan saput darah nipis berwarna Giemsa menunjukkan tiga kes positif untuk *B. caballi* di kalangan kuda padi daripada ladang lembu kerajaan. Bagaimanapun, tiada seekor pun kuda ini yang menunjukkan petanda klinikal piroplasmosis.