TRYPANOSOMIASIS IN MALAYSIA

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The protozoan parasite, *Trypanosoma evansi* is transmitted mechanically between animals by tabanid flies. *T. evansi* causes the disease surra, which produce significant mortality and production losses in a variety of mammals in endemic countries.
Mortality of domesticated java deer attributed to Surra

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Abstract. This paper reports an outbreak of trypanosomiasis due to *Trypanosoma evansi* in Java deer (*Cercus tinonensis*) on a government deer farm in Lenggong, Perak. Seventeen adult female Java deer were found dead within a week. Symptoms of dullness, inappetence, anaemia, anorexia, respiratory distress and recumbency were seen prior to death in the infected Java deer. Beside trypanosomiasis, other parasitic infections such as theileriosis, helminthiasis and ectoparasite infestation were also recorded. Post mortem results showed generalized anaemia in most animals with isolated cases of jaundice. There was no significant finding with respect to bacteriological and viral investigations.
1,300 deer various species.

March’06 - 17 adult female Java deer were found dead within a week.

Symptoms - dullness, inappetence, anaemia, anorexia, respiratory distress and recumbency

Transmission - biting flies
COMPARATIVE SEROPREVALENCE OF BOVINE TRYPANOSOMIASIS AND ANAPLASMOSIS IN FIVE STATES OF MALAYSIA, 2012

Wahab A.R. et.al. (2012)

Comparative seroprevalences of bovine trypanosomiasis and anaplasmosis in five states of Malaysia

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Abstract. A comparative seroprevalence study on bovine trypanosomiasis and anaplasmosis was conducted. Serum of adult cattle and buffaloes of different breeds from farms from five different states in Malaysia were collected and tested for the presence of Trypanosoma evansi antibodies by CATT and Anaplasma marginale antibodies by c-ELISA. Of the 116 samples, 14.7% tested positive for bovine trypanosomiasis and 77.6% for bovine anaplasmosis.

Table 1. Bovine trypanosomiasis incidences in all five states

<table>
<thead>
<tr>
<th>State</th>
<th>Number of Samples</th>
<th>Positive Results</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perak</td>
<td>21</td>
<td>3</td>
<td>14.29</td>
</tr>
<tr>
<td>Terengganu</td>
<td>30</td>
<td>5</td>
<td>16.67</td>
</tr>
<tr>
<td>Melaka</td>
<td>25</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Johor</td>
<td>20</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Sabah</td>
<td>20</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>116</td>
<td>17</td>
<td>14.7</td>
</tr>
</tbody>
</table>

*All percentages were calculated based on the number of samples from each state
TRYPANOSOMIASIS OUTBREAK IN DEER, CATTLE, BUFFALOES AND PIGS IN PERAK, 2013

Nurulaini R.. et al. (2013)

ABSTRACT. An outbreak of trypanosomiasis was diagnosed by the Parasitology Section of the Veterinary Research Institute (VRI) in early 2012. A total of 86 whole blood samples from deer, cattle and buffaloes from a government farm near Sungai Siput, Perak and 16 whole gut samples were screened for worm infestation. Laboratory diagnosis showed all the samples to be positive for Trypanosoma evansi and 2 out of 4 faecal samples positive for coccidian oocyst. Subsequently, 18 deer blood samples were sent for screening of Trypanosomiasis and 6 were positive. Nurulaini et al. (2007)

Table 1. Summary of Laboratory results from various species around the vicinity of Sungai Siput Utara

<table>
<thead>
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<th>SPECIES</th>
<th>TOTAL SAMPLE</th>
<th>POSITIVE SAMPLE</th>
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<tbody>
<tr>
<td>1. DEER</td>
<td>46</td>
<td>34</td>
</tr>
<tr>
<td>2. CATTLE</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>3. BUFFALO</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>4. PIG</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>TOTAL</td>
<td>102</td>
<td>63</td>
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Due to complaint of high mortality in pig farm near the government farm.

- 13/16 samples were positive.
- Sample were collected from gov farms for screening.

**Table 1. Summary of Laboratory results from various species around the vicinity of Sungai Siput Utara**

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Clinical signs of infection
The management has to ensure that animals such as cattle and buffalo do not graze together as buffaloes can harbour trypanosomes without showing clinical signs but cattle and deer may show mortality and anemia.

Buffaloes graze nearby cattle and pig farms
**T. Evansi Cases in Malaysia**

- **Horses**
  - (Ng & Vancelow, 1978)

- **Cattle & Buffaloes**
  - (Zary et al., Cheah et al., 1999)
  - (Cheah et al., 2000)

- **Cattle**
  - (Wahab A.R. et al., 2002)
  - (Wahab A.R. et al., 2012)

- **Deer**
  - (Nurulaini R. et al., 2007)

- **Cattle & Buffaloes**
  - (A. Hafiz et al., Cheah et al., 2000)

- **Deer, cattle, buffalo & pig**
  - (Nurulaini R. et al., 2013)

- **Outbreak reported from OIE - WAHID**
  - 1978
  - 1989
  - 1996
  - 1999
  - 2000
  - 2002
  - 2007
  - 2011
  - 2012

- Years: ‘05, ‘07, ‘08, ‘09
T.evansi cases reported in
VRI is located at Ipoh, capital city of Perak.

Act as a national reference laboratory – Thin blood smear, mice inoculation, buffy coat, CATT, ELISA

5 Regional Veterinary Laboratory (RVL) – Thin blood smear

2 State diagnostic lab
Most of the diagnostic and monitoring samples in Perak were sent to VRI.
T.evansi 2000-2013, Perak State
T. evansi according to species

No of Case

Canis    Swine    Buffalo    Equine    Cattle    Cervine
Species

0  2  4  6  8  10  12  14  16  18  20  22  24  26  28  30  32  34  36  38  40  42  44  46
ONGOING STUDY

❖ Fly Trap
❖ Molecular Study
❖ Spatial & temporal analysis
  ▪ Determine the modes and rates of transmission
❖ Statistical analysis
  ▪ Species, area, type of farm
  ▪ Disease occurrence
  ▪ Regional info on fly activity
  ▪ Climate etc.