PREVALENCE OF TRYPNOSOMIASIS IN CAMELS IN SURROUNDING AREAS OF KHAIRABAD, NWFP

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ABSTRACT
Blood samples of N=150 symptomatically infected camels were examined. Among these N=21 samples (14%) were found positive for Trynosoma evansi. A higher infection was found in females (16%) as compared to males (12%). A higher infection (16%) was noted in animals above 4 years of age compared with 8% in animals less than 3-4 years of age.

KEYWORDS: Camel, disease, Trynosoma evansi, NWFP, Peshawar, pathogenic, fatal

INTRODUCTION
Trypnosomiasis is caused by Trypnosoma evansi. It is the most important and serious pathogenic protozoal disease of camels and equines in Pakistan. The disease is always fatal if treatment is not given and is characterized by progressive anemia, emaciation, oedema, ataxia, conjunctival congestion, intermittent fever and death (Soulsby, 1982). The parasite has wide range of distribution throughout tropical and subtropical regions (Veterinary Protozology by Richardson and Kendall). T. evansi was reported originally from India, where the term surra is used to describe the disease. Another form of Trypnosomiasis is prevalent which is known as "nagana" in South Africa. T. evansi is indistinguishable from T. brucei and it is believed that T. evansi has evolved from Trynosoma brucei following its introduction in to camel and its adaptation to direct transmission by tabanus Brown et al (1990), haematopa and pangonia spread to the North Africa, Middle East, India and Far East Asian countries (lukins, 1992). The difference in species depends upon size and shape of body, position of nucleolus, degree of development of undulating membrane and flagellum (Smyth, 1996).

The present study was conducted to evaluate the prevalence of trypnosomiasis in camels in Khairabad of NWFP province.

MATERIALS AND METHODS
The present study was conducted in Veterinary Research Institute Peshawar from July 2004 to June 2005. The objective of the present study was to identify the trypanosomes species prevalent in camels in Khaibad and surrounding areas of NWFP to find comparative infection rate in different age and sex group of camels. A total of 150 camels were studied. These camels were divided in to three groups, A, B and C.
Group A: Animals up to 02 years of age (male & female)
Group B: animals from 02 to 04 years of age (male & female)
Group C: animals above 04 years of age (male & female)

COLLECTION OF BLOOD SAMPLES
5 ml of blood samples were collected from jugular vein of each animal with the help of sterilized syringe after proper disinfection. The blood samples were transferred in to screw tubes containing 0.5 ml of 1% Ethylene Diamine Tetra Acetate (EDTA) solution.
PREPARATION OF SLIDES
Thin and thick blood smears were made, as per method described by Adam et al (1971) and air dried. Dried smears were fixed in absolute Ethyl Alcohol for two minutes. The slides were immersed in Giemsa’s attain for 20 minutes. After drying, the slides were examined under microscope (at 100X oil immersion object) for identification of various trypanosome species according to morphological characteristics and compare with the positive slide.

RESULTS AND DISCUSSION
Blood samples from 150 camels, 75 each from male and female were collected and examined for the presence of various trypanosomes species. During the investigation, T.evansi was the only specie recognized from sample of infected animals. The Morphological characteristics of T. evansi recognized from blood samples of infected animals during the present study are same as reported by Handler and Read (1961). Similar characteristics were also observed by Lukins (1992) and Symth (1996) and Shah (2004).

Out of 150 samples, only 21 (41%) samples were found positive for Trpnosoma evansi species. The results of the present study are similar to the findings (13.2) and (13.72) reported by Hussain et al (1991) and Shah et al (2004) respectively. The infection rate (16%) was higher in females, as compared to males (12%). Shah recorded a higher infection rate (15.68%) in females as compared to males (11.76%), which is similar to the present study. The infection rate (24%) was higher in females of above four years of age (Group C), followed by (16%) in very young camels with age of under 02 years (Group A) and lower rate (08%) in middle age groups of animals of both sexes (Group B) was observed. Infection rate (23.4%) in females of above 04 years of age, (17.64%) in young camels with age under 02 years of age and (5.88%) in middle age group of both sexes was recorded by Shah (19%). In contrast to this, all camels were equally susceptible to trypanosome infection regardless of breed and age reported by Pathak and Kanna (1995).

Table-I: Prevalence of trypnosoma evansi in different age and sex groups of camels

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Sex</th>
<th>Number of samples examined</th>
<th>Number of positive samples</th>
<th>Percentage of positive samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Up to 02</td>
<td>Male</td>
<td>25</td>
<td>03</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>years</td>
<td>Female</td>
<td>25</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>50</strong></td>
<td><strong>07</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>B.</td>
<td>03 to 04</td>
<td>Male</td>
<td>25</td>
<td>02</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td>years</td>
<td>Female</td>
<td>25</td>
<td>02</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>50</strong></td>
<td><strong>04</strong></td>
<td><strong>16</strong></td>
</tr>
<tr>
<td>C.</td>
<td>Above 04</td>
<td>Male</td>
<td>25</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>years</td>
<td>Female</td>
<td>25</td>
<td>06</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>50</strong></td>
<td><strong>10</strong></td>
<td><strong>40</strong></td>
</tr>
<tr>
<td>Overall</td>
<td>Male</td>
<td></td>
<td>75</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td></td>
<td>75</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>150</strong></td>
<td><strong>21</strong></td>
<td><strong>14 Avg</strong></td>
</tr>
</tbody>
</table>
Graph-1: Trypanosomiasis in up to 02 years

Graph-2: Trypanosomiasis in 3-4 years

Graph-3: Trypanosomiasis in above 4 years
REFERENCES


