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Gastrointestinal Parasitic Fauna of Camel (*Camelus dromedarius*) Slaughtered at Faisalabad Abattoir

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Abstract

Camel guts (n = 600) were examined to determine the gastrointestinal parasitic fauna. The overall prevalence was recorded as 69.1 (415/600) percent. The prevalence of nematodes, cestodes and trematodes was 42.3, 22.5 and 4.3 percent, respectively. The infected guts (n = 415) had a mixed infection (32.5%) of different species of nematodes viz., *Haemonchus contortus*, *Trichuris ovis*, *Trichuris globulosa*, *Trichostrongylus probolurus*, *Camelostrongylus mentulatus*, *Ostertagia circumcincta*, *Chabertia ovine*, *Oesophagostomum venulosum* and *Cooperia onchophora*. The species of cestodes identified included *Moniezia expansa*, *Moniezia benedni*, *Stilesia globipunctata* and those of trematodes *Paramphistomum cervi*, *Carmyerious spatiosus* and *Gastrothylax crumenifer*. The coprological examination revealed three protozoan species i.e. *Eimena cameli*, *Eimena (Globidium) cameli* and *Eimeria clomedani*.

Introduction

The camel (*Camelus dromedarius*) is an economically important multipurpose animal in arid and semi-arid areas of the world. The existing population of camel in Pakistan is 1.2 million heads (Anonymous, 1997), which is increasing at the rate of 1.6 percent yearly (Qureshi, 1986). Pakistan is the fourth largest country of the world after Sudan, Saudi Arabia and Egypt to have a large population of camel (Wilson, 1984). Camel is used as a mean of transport, milk and meat in different parts of the world. Parasitism has been widely reported in camels throughout the world which inflicts tremendous economic losses in terms of lowered productivity or even death of the animals. This paper describes the gastrointestinal parasitic fauna of camels brought for slaughter at the Faisalabad Municipal Corporation abattoir. The findings of this research work will be helpful in understanding the existing parasitic fauna and ultimately their control in camel.

Materials and Methods

Collection of Samples: Six hundred camel guts were collected from Faisalabad Municipal Corporation Abattoir. The guts were incised longitudinally to their entire length and the worms were recovered and washed thrice with distilled water and preserved in 10 percent formalin and water on stained and mounted as described by Khan (1985) and identified by Cable (1957) and Soulsby (1982). Faecal samples (n = 600) were also collected in polythene bags from the same camel guts and examined by direct smear and floatation techniques (Levine, 1973). The samples positive for coccidia were cultured in 2.5 percent potassium dichromate solution at room temperature and the paroluted oocysts of coccidia were identified (Soulsby, 1982).

Results and Discussion

The results are presented in Table 1. The overall prevalence of helminths was recorded as 69.1 percent. The prevalence of nematodes, cestodes and trematodes was 42.3, 22.5 and 4.3 percent, respectively. The nematode species recovered included *Haemonchus contortus*, *Trichuris ovis*, *Trichuris globulosa*, *Trichostrongylus probolurus*, *Camelostrongylus mentulatus*, *Ostertagia circumcincta*, *Chabertia ovine*, *Oesophagostomum venulosum* and *Cooperia onchophora*. *Haemonchus contortus* was the most common (7.1%) species infecting camels. This nematode has also been reported (Steward, 1950) from the abomasum of camels in Sudan. *Trichuris ovis* and *Trichuris globulosa* were recovered from 7.0 and 4.1 percent of the infected guts, respectively. The species of *Trichuris* are the same as mentioned by Michael *et al.* (1980). The other species of nematodes have also been reported from camels in different localities of the world (Michael *et al.*, 1980; Hassan *et al.*, 1983; Fahrny *et al.*, 1983). Mixed infection of nematodes was observed in 135 (32.5%) infected guts. Michael *et al.* (1980) reported 84.0 percent guts infected with mixed species of nematodes. This partial diversity in the results may be attributed to the difference in the number of guts examined.

Three species of cestodes viz., *Moniezia expansa* (most common), *Moniezia benedni* and *Stilesia globipunctata* are identified. These findings are in line with El-Bihari (1985) who reported the prevalence of these species in camel. Wilson *et al.* (1979) and Michael *et al.* (1980) also observed *Moniezia* species as the commonest cestode in camel. The trematodes species identified from the guts of camel included *Paramphistomum cervi*, *carmyerious spatiosus* and *Gastrothylax crumenifer*. Amphistomiasis has been reported (Steward, 1950) in camel without mentioning

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Table 1: Prevalence of gastrointestinal parasitic fauna of camel (n = 600)

Species	No. infected	Prevalence (%)
(a) Nematodes		
<i>Haemonchus longistipes</i>	43	7.1
<i>Haemonchus contortus</i>	30	5.0
<i>Trichostrongylus axei</i>	42	7.0
<i>Trichostrongylus globulosa</i>	25	4.1
<i>Trichostrongylus probolurus</i>	25	4.1
<i>Camelostrongylus mentulatus</i>	20	3.3
<i>Ostertagia circumcincta</i>	20	3.3
<i>Chabertia ovine</i>	19	3.1
<i>Oesophagostomum venulosum</i>	15	2.5
(b) Cestodes		
<i>Moniezia expansa</i>	55	9.1
<i>Moniezia benedeni</i>	47	7.8
<i>Stilesia globipunctata</i>	33	5.5
(c) Trematodes		
<i>Paramphistomum cervi</i>	10	1.6
<i>Caromyerius spatiosus</i>	7	1.1
<i>Gastrothylax crumenifer</i>	9	1.5
(d) Protozoa		
<i>Eimeria cameli</i>	30	5.0
<i>Eimeria dromedarii</i>	25	4.1
<i>Eimeria (Globidium) cameli</i>	20	3.3

the name of species of trematodes. However, these species have been reported by different workers from cattle, sheep and goats.

Coprological examination indicated three protozoan species viz., *Eimeria cameli*, *Eimeria (Globidium) cameli* and *Eimeria dromedarii* having prevalence of 12.5 percent. The findings are partially in agreement with the results of Kasim *et al.* (1985) who have recorded *Eimeria rajasthani* and *Eimeria mollerii* in addition to the species recorded in this study. This variation in the prevalence of species may be due to the larger number of camels with different climate involved in their investigation.

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