

PREVALENCE AND CHEMOTHERAPY OF GASTROINTESTINAL PARASITES IN CAMELS IN AND AROUND FAISALABAD, PAKISTAN

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ABSTRACT

The prevalence of gastrointestinal (GI) parasites and the efficacy of Dectomax (Doramectin) against these parasites was studied. For this purpose, 50 camels were selected from different localities of Faisalabad, their faecal samples were collected and examined for the parasitism. The overall prevalence of GI parasites was 60%. Species wise prevalence of these parasites was: 20, 14, 8, 4, 4 and 10% for *Haemonchus*, *Trichostrongylus*, *Strongyloides*, *Ostertagia*, *Moneizia expansa* and mixed infection, respectively. The efficacy of Dectomax was 75-90% and it may be used for the treatment of GI parasites in camels.

Key words: Gastro-intestinal parasites, prevalence, chemotherapy, camel.

INTRODUCTION

The camel (*Camelus dromedarius*) is an important livestock species in arid zones of Pakistan, commonly used to pull carts for hauling industries merchandise over short distance. The role of this animal towards milk and meat production at national level is also accepted and so many families depend on this species for their daily needs, as camel population at present in Pakistan is about 0.8 million heads (Anonymous, 2006).

In Pakistan, parasitic diseases are one of the major obstacles in the growth and development of animal health. Factors like constant exposure to parasitic infection, variable geo-climatic conditions and lack of knowledge of farmers regarding gastrointestinal (GI) diseases play an important role in the proliferation of parasites and their diseases (Durrani, 1991). The GI parasites adversely affect the nutritional status of the animals and lower the resistance against other diseases (Irfan, 1984).

Internal parasites are considered to be the most important causes of economic losses in camels. These parasites not only reduce the productivity and performance of camels but also predispose them to other infections. Camels can acquire helminth infection by grazing on infected pastures or by ingesting infective larvae with drinking water resulting in colic, fever, emaciation along with growth disorders, and diarrhea (Blood *et al.*, 1979). The present project was designed to determine the prevalence of GI parasites in camels in and around the Faisalabad city and efficacy of Dectomax (Doramectin) against these parasites.

MATERIALS AND METHODS

Fifty apparently healthy camels were selected at random from different localities in and around Faisalabad, irrespective of their age, sex and breed. The faecal samples were collected directly from the rectum in separate polythene bags and examined for the presence of ova by using the direct smear method (Soulsby, 1982). From 30 camels positive for GI parasite, 20 were divided in two groups (10 in each group). One group was treated with Dectomax (Doramectin) and other group was kept as control. A 1.0% w/v solution of Dectomax was given @ 0.20 mg/kg body weight (1 ml/50 kg) S/C. The efficacy of Dectomax was determined by the examination of faecal samples, done pre-medication and 3, 7 and 14 days post-medication. The percent efficacy was calculated by counting the eggs per gram (EPG) of faecal sample.

RESULTS AND DISCUSSION

Prevalence of GI parasites

Out of 50 camels, 30(60%) were found positive for the gastrointestinal parasitic infection and the remaining were negative. The prevalence of nematodes, cestodes and mixed infection was 46, 4 and 10%, respectively. Not a single case was recorded for trematode eggs (Table 1). Species-wise prevalence of GI parasites indicated that *Haemonchus* was maximum (20%), followed by *Trichostrongylus* (14%). *Strongyloides*, *Ostertagia*, *Moneizia* and mixed infection prevalence was 8, 4, 4 and 10%, respectively. These results are in line with those of Kayum *et al.* (1992), Haroun *et al.* (1996) and Bekele (2002), who reported the above species of GI parasites.

Table 1: Efficacy of Doramectin against gastrointestinal helminths of camels

Parasite	Infected animals	Reduction in EPG after treatment			
		Day 0	Day3	Day7	Day14
Trichostrongylus	2	500	180(64)	70(86)	14(97.2)
Strongyloides	2	800	175(78.12)	35(95.62)	7(99.12)
Haemonchus	1	810	160(80.24)	30(96.29)	5(99.38)
Trichostrongylus + Haemonchus	2	5900	2750(53.40)	850(85.59)	250(95.76)
Trichostrongylus + Strongyloides	3	5600	1600(71.5)	400(92.86)	90(98.39)
Mean	10	2722	973(64.25)	277(89.82)	73(97.31)

Figures in parenthesis are in percentage.

Table 2: Mean eggs per gram (EPG) of faces in untreated group of camels

Parasites	Infected animals	Mean EPG on different days			
		Day 0	Day 3	Day 7	Day 14
Trichostrongylus	4	500	550	625	750
Stongyloides	2	750	800	880	1000
Haemonchus	3	2600	2675	2800	3000
Trichostrongylus + Haemonchus	1	900	950	1050	1150
Mean (%)	10	1187.5	1243(4.52)	1338(11.29)	1475(19.49)

Chemotherapy

There was marked decrease in EPG due to treatment. The mean pretreatment EPG for faces was 2722 that decreased to 973(69.4%), 277(74.4%) and 73.2(78.4%) on 3rd, 7th and 14th day post medication, respectively. However, in untreated group the mean EPG at the start of trail was 1187.5 that increased to 1243(4.74%), 1338(11.29%) and 1475(19.49%) at day 3, 7 and 14 post trait (Table 2). Boyce *et al.* (1984) and Robin *et al.* (1989) conducted trails of injectible ivermectin on camels and found it effective up to 100% against gastrointestinal nematodes of camel. Swan *et al.* (1985) recorded efficacy of ivermectin as 77.52 to 100% against Haemonchus and Ostertagia.

On the basis of this study, it was concluded that production performance and health status of camel can be improved by controlling the GI parasitism through injectable Doramectin.

REFERENCES

- Anonymous, 2006. Economic Advisor's Wing, Finance Division, Ministry of Finance, Govt. Pakistan, Islamabad.
- Bekele, T., 2002. Epidemiological studies on gastrointestinal helminths of dromedary (*Camelus dromedarius*) in semi-arid lands of eastern Ethiopia. *Vet. Parasitol.*, 105:139-152.
- Blood, D. C., J. A. Henderson and O. M. Radostits, 1979. Strongylosis in Horses. *Veterinary Medicine*. 5th Ed., Bailliere Tindall, London, UK.
- Boyce, W., G. Koillias, C. Country, J. Allen and E. Chalmers, 1984. Efficacy of ivermectin against gastrointestinal nematodes in dromedary camels. *J. Amer. Vet. Med. Assoc.*, 185: 1307-1308.
- Durrani, A. Z., 1991. Faecal culture techniques, MSc (Hons) Thesis, Univ. Agri., Faisalabad, Pakistan.
- Haroun, E. M., O. M. Mahmoud, M. Magzoub, Abdel Hamid and O. H. Omer, 1996. The haematological and biochemical effects of the gastrointestinal nematodes prevalent in camels (*Camelus dromedarius*) in central Saudi Arabia. *Vet. Res. Commun.*, 20: 255-264.
- Irfan, M., 1984. Keynote address on effects of parasitism on livestock production. *Pakistan Vet. J.*, 4: 25-27.
- Kayum, A., M. Afzal and R. Salman, 1992. Gastrointestinal parasites in racing camels: Prevalence and evaluation of different methods of faecal examinations. *Proc. 1st Camel Conf. Abu Dhabi, UAE*. pp: 85-87.
- Soulsby, E. T. L., 1982. *Helminths, Arthropods and Protozoa of Domestic Animals*. 7th Ed., Bailliere Tindall, London, UK. pp: 688-723.
- Swan, G. W., J. Schreoder and J. P. Louw, 1985. Efficacy of ivermectin against gastrointestinal nematodes in cattle in South Africa. *J. South African Vet. Med. Assoc.*, 51: 212-215.
- Robin, B., K. Koing and M. D. Antesy, 1989. Efficacy of ivermectin against intestinal parasites in dromedary (*Camelus dromedarius*). *Vet. Bull.*, 60: 312.