

## Short Communication

# Prevalence and Chemotherapy of Ecto-and Endoparasites in Rangers Horses at Lahore–Pakistan

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## ABSTRACT

The project was designed to find out the efficacy of ivermectin against ecto and endo parasites in horses at Pakistan Rangers, Lahore. Forty eight naturally infected/infested horses were selected for treatment trial and divided into three groups i.e. A (ectoparasites) 16 animals, B (endoparasites) 16 animals and C (both ecto and endoparasites) 16 animals. An overall prevalence of endoparasites, ectoparasites and both was 53.33, 79 and 32%, respectively. Efficacy of ivergen (ivermectin, Symans, Pakistan) was 80 and 95.17% in groups A and B, respectively; whereas, in mixed infection group it was 80% for ecto-parasite and 96.21% in endo-parasites.

**Key Words:** Ivermectin; Endoparasites; Horse

## INTRODUCTION

The ectoparasites which cause major problem in equine are mites, flies and less common are ticks and lice. These parasites cause damage by inflammation, neoplastic reactions, restlessness, itching and loss of hair, loss of body condition, dull body coat, anaemia and dermatitis. Endoparasites cause damage to the host by inhibiting nourishment, by mechanical obstruction of passage or compression of organs, by blood sucking, by production of toxins with varying effects, by transmitting diseases, facilitating the entrance of bacteria. Horses of all ages are affected without age or breed susceptibility (John & Greaterexs, 1975).

Ivermectin, which is broad spectrum against a wide variety of helminths and arthropods. It is very effective in extremely low dosage and single treatment is sufficient. It is given subcutaneously at dosage rate of 200 µg/kg body weight (1mL/50 kg) (EI-Sayed, 1996). This paper reports (i) the prevalence of ecto- and endo-parasites in rangers horses at Lahore and (ii) the efficacy of Ivermectin against ecto- and endo- parasites in horses.

## MATERIALS AND METHODS

**Source of animals.** For this study, horses were selected from HQ Pakistan Rangers at Lahore, irrespective of their ages, sex, breed and were properly numbered in each group for identification. Animals infected of ecto- and endo-parasites were identified through skin scrapings (Aydn, 2000) and faecal examination (Soulsby, 1982), respectively.

**Grouping of animals.** The animals selected were randomly divided into three main groups i.e. A, B and C, comprising

of 16 animals in each group.

**Group-A.** This group consisted of 16 horses infected with ecto-parasites and were subdivided into subgroup A1 and A2, comprising of 8 animals in each subgroup. A1-subgroup was administered with ivermectin (Ivergen, Symans, Pakistan) at a dose rate of 200 µg/kg body weight (1 mL/50 kg) and subgroup A2 was maintained as untreated control group.

**Group-B.** This group consisted of 16 horses infected with endo-parasites. The animals were sub-divided into B1 and B2, comprising of 8 animals in each subgroup. The animals of subgroup-B1 were treated with ivermectin (Ivergen, Symans, Pakistan) at a dose rate of 200 µg/kg body weight (1 mL/50 kg) and subgroup-B2 was maintained as untreated control group.

**Group-C.** This group comprised of 16 horses having both ecto- and endo-parasitic infections and were subdivided into two subgroups i.e. C1 and C2, having 8 animals in each subgroup. Subgroup C1 was treated with Ivermectin (Ivergen-Symans) at the same dose rate of 200µg/kg body weight; whereas, subgroup C2 remained as untreated control group.

The efficacy of ivermectin regarding endoparasites was determined on the basis of reduction of ova in the faeces while the efficacy of ivermectin against ectoparasites were determined on the basis of reduction of ectoparasites from the body, examined with the help of magnifying glass.

## RESULTS AND DISCUSSION

The prevalence of GIT nematodes was 79% and that of ectoparasites was 53.33%. The percentage of *Strongylus*

ova was 83.33%, *Oxyuris equi* was 6.32% and *Parascaris equorum* was 10.92%. These results are in confirmation with the results of Hutchison and Mfitlidoze (1989) who reported that 89% horses in the subcontinent were infected with strongyloides. Roneus (1971) stated that about 80% of Swedish horses were infected with strongylus and *Parascaris equorum*. Riaz (1984) found incidence of GIT nematodes as 62.76%. In the present study, the prevalence of ectoparasites was 53.33%. The species recorded were *Sarcoptes scabiei* and *Demodex equi*. The commonest cause of itching, loss of hair, redness of the affected part was mange mites. Bhasker and Joseph (1987) studied major mange mites of horses in India, which were *Demodex equi*, *Sarcoptes scabiei*, *Psoroptes equi* and *Chorioptes bovis*.

The efficacy of ivergen at dose rate of 200 µg/kg body weight sub/cut injection administered to horses of group A was 80% and B was 95.17%; whereas, to endoparasites of group C was 96.21% and against ectoparasites of C group ivergen was 80% effective on 10 day post medication. The results of this study are very close to the findings of Hameed *et al.* (1997) who stated the efficacy of ivermectin as 60.72%, 98.34% and 99.26% on days 3, 7 and 14, respectively against endoparasites. Klei *et al.* (2000) found ivermectin highly effective against endoparasites of horses. Likewise, Raisinghani and Kumar (1988) and Werner and Matthes (1989) reported high efficacy of ivermectin against microfilarial and mange infestations. The side effect observed after ivergen injection was moderate swelling at the site of injection which was slightly painful on touch. The swelling disappeared after 14<sup>th</sup> day post-medication. The side effects observed are in line with Thomas and Tobert (1980).

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