

## CHEMOTHERAPY OF NEMATODIASIS IN ZOO PIGEONS

H.R. Parsani<sup>1</sup>, R.R. Momin<sup>2</sup> and R.K. Shahu<sup>2</sup>

<sup>1,2</sup> Department of Parasitology, College of Veterinary Science and Animal Husbandry, S.D. Agricultural University, Sardarkrushinagar, Gujarat 385506, India  
Email: <sup>1</sup> husirehana@yahoo.co.in

Pigeons act as reservoir host or carrier and an important source of infection for other avian hosts, which share the common parasitic fauna (Kumar, 1998). There are quite a large number of problems related to management of parasitic infestations in birds. Clinical or sub clinical form of nematodiasis leads to anaemia as a result of continuous sucking of blood by parasites. Clinically, birds show partial or complete anorexia, diarrhoea, dehydration, loss of weight and alteration in body microelements, which result in immuno suppression. *Ascaridia columbae* and *Capillaria obsignata* are the most common nematodes in pigeons. Kirsch *et al.* (1978), Vindevogel *et al.* (1978), Kirsch & Degenhardt (1979), Luthgen (1979), and Scupin & Nannen (1980) have treated nematodiasis in pigeons with fenbendazole at different dose rates in feed and have found various results from various parts of world. In all the zoos of Gujarat state, anthelmintic treatment is regularly carried out for control of helminthic infection in zoo birds. The present study was undertaken to evaluate chemotherapeutic efficacy of benzimidazole group of drugs, namely, albendazole and fenbendazole against nematode infection in zoo pigeons.

**Materials and Methods:** Studies were conducted for helminthic infection of pigeons of Kamla Nehru Zoological Garden, Kankaria Zoo, Ahmedabad. Faecal samples were examined for the presence of gravid segments of tapeworms, immature and mature parasites. They were processed for qualitative and quantitative examinations. Qualitative examinations of all randomly collected samples were positive for *Ascaridia columbae* and *Capillaria obsignata* nematode infections. Two groups were selected cage-wise with each cage of 30 pigeons for study. In group-I (pooled faecal sample having 1800 EPG) were treated with albendazole 2.5% *w/v* (Albomar, Glaxo India Ltd., Mumbai) at dose rate of 30 to 45ml/100 birds for three days in drinking water. In group-II (pooled faecal sample having 2000 EPG) were treated with fenbendazole 10% (Panacur suspension, Hoechst India Ltd., Mumbai) at dose rate of 1ml/15 birds for three days in drinking water. Quantitative examination of faecal samples of both groups was carried out at 7, 14, 21 and 30 days post treatment. The results are incorporated in Table 1.

**Results and Discussion:** In group-I of pigeons have 1800 EPG before treatment, showed 200, 500, 700 and 900 EPG after 7, 14, 21 and 30 days post treatment indicating the efficacy of the drug to be

88.92%, 72.73%, 61.12% and 50%, respectively. In group-II of pigeons have 2000 EPG before treatment drug efficacy was 90%, 75%, 60% and 55%, after 7, 14, 21 and 30 days post treatment, respectively. The egg load reduced to 88.89% in albendazole treated group and 90 percent in fenbendazole treated group after seven days of treatment and egg load reduced to 50% in albendazole and 55% in fenbendazole treated group after 30 days of treatment. Similarly, Kirsch *et al.* (1978), Vindevogel *et al.* (1978), Kirsch & Degenhardt (1979), Luthgen (1979), and Scupin & Nannen (1980) have treated pigeons nematodiasis with fenbendazole at different dose rates in feed and found various results from 90 to 100% efficacy. Here in this case seven days after treatment 88.89 and 90% efficacy was observed in albendazole and fenbendazole treated groups, respectively, because some pigeons were observed to not drink water. Infection remained in the cages and pigeons were reinfested with ova and the egg load increased to 50-55% after 30 days of treatment. Both the drugs were equally effective in pigeon nematodiasis. To increase the efficacy of drug a higher dose may not adversely affect pigeons as suggested by Scupin & Nannen (1980).

### REFERENCES

- Kirsch, R., K. Petri & H. Degenhardt (1978). The treatment of *Capillaria* and *Ascaridia* infection in pigeons with fenbendazole. *Kleintier Praxis* 23: 291-298.
- Kirsch, R. & H. Degenhardt (1979). The efficacy of fenbendazole against in mature and immature stages of *Capillaria obsignata* and *Ascaridia columbae* in pigeons. *Tierärztliche Umschau* 34: 767-771.
- Kumar, R. (1998). A survey of parasitic fauna of local pigeons and assessment of efficacy of certain drugs in poultry nematodiasis. M.V. Sc Thesis submitted to C.S.Azad University of Agricultural and Technology, Kanpur.
- Luthgen, W. (1979). Efficacy of fenbendazole against *Ascaridia* and *Capillaria* in pigeons. *Tierärztliche Umschau* 34: 107-112.
- Scupin, E. & R. Nannen (1980). Safety and efficacy of fenbendazole in pigeons. *Blauen Heftefirden Tierarzet* 62: 73-76.
- Vindevogel, H., IP Duchatel & L. Fieveg (1978). Treatment of capillariasis in pigeons with fenbendazole. *Annales de médecine veterinaire* 122: 109-115.

### ACKNOWLEDGEMENT

The authors are thankful to the Principal, Veterinary College, S.D.A.U., Sardarkrushinagar for providing facilities.

**Table 1. Effect of albendazole and fenbendazole anthelmintic drugs on natural nematode infection in zoo pigeons**

Name of the drug	Dose rate	EPG days after the treatment				
		0	7	14	21	30
Albendazole 2.5 w/v (Albamar suspension)	30-45ml/100 birds for three days in drinking water	1800	200 (88.89%)	500 (72.73%)	700 (61.62%)	900 (50.00%)
Fenbendazole 10% (Panacur suspension)	1ml/15 birds for three days in drinking water	2000	200 (90.00%)	500 (75.00%)	800 (60.00%)	900 (55.00%)

