Pak. J. Agri. Sci., Vol. 31. *No.* 4, 1994

ECHINOCOCCOSIS IN DOGS AND ITS TREATMENT WITH MEBENDAZOLE AND EPSIPRANTEL

A. Maqbool, F.Rehman & M.K., Amin
Department DJ Clinical Medicine and Surgery
Faculty DJ Veterinary Science
University DJ Agriculture, Faisalubad

Two groups of 30 dogs were infected with Echinococcus granulosus infection and were treated with Epsiprantel and Mcbcndazole. The results indicated that Mebendazole was 96 per cent effective against Echniococcus granulosus in dogs whereas Epsiprantcl caused 90 per cent reduction in the number of eggs per gram of faeces.

INTRODUCTION

Echinococcosis is one of the most important dog related zoonotic disease of animals and human (Soulsby, 1982). Infection with the larval forms of Echinococcus granulosus are responsible for considerable economic losses to meat industry because of liver damage in food animals. Whereas adult tapeworms in the gut of infected dog may produce clinical signs. The prevalence of E. granulosus in stray dogs in and around Faisalabad is 14 per cent (Hyat *et al.,* 1991). Leading to a high risk of faecal contamination of environment with the worm's eggs which can ultimately affect the human and animal population which is particularly in close association to dogs (Hassanouh and Behbehani, 1976).

In order to achieve an effective control of tape worm infections and to break the life cycle, it is of utmost importance that the dogs should kept away from slaughter houses. Moreover, regular administrations of the cestocidal drugs to the pets along with destruction of stray dogs should be under taken. The present study was designed to find out the incidence of Echinococcus granulosus infection and to assess and compare the efficacy of Epsiprantel and Mcbcndazole against Hydatidosis in dogs.

MATERIALS AND METHODS

Studies were conducted at the out door clinics of the department of Veterinary Clinical Medicine & Surgery, University of Agriculture, Faisalabad, During the one year period under study a total of 720 dogs (of varying age groups) were brought to the clinics for treatment purpose against different diseases, of these 210 (29.1) were found positive for internal worms by direct smear form which 30 (2.8) dogs were found heavily infested with Echinococcus granulosus. Identification of eggs was made by using keys described by Soulsby, 1982. The affected dogs were randomly divided into two groups i.e. A & B each having 15 dogs.

DRUGS USED

The following drugs were used in these studies.

Mebendazole (Chanazole): product of Alga Pharmaceuticals Pakistan given orally at the rate of 50 mg/kg body weight.

Epsiprantel (Cestex): product of Beecham

Laboratories given orally at the rate f 5 mg/kg body weight..

Animal in group A were treated with Mebendazole while dogs in group B were treated with Epsiprantel, An overnight fasting was given to all dogs prior to treatment. . Faeces were examined on zero, 3rd, 7th & 18th day post treatment. . The presence of worms/larvae was confirmed by purging the animals with Arecoline hydrobromide at the rate of 2 mg/kg body weight and examining the faeces with the help of light power microscope. Counting of eggs was done by using Mc. Master egg counting technique (Coles, 1967). The efficacy of drug was calculated on the basis of reduction in the number of eggs per gram of faeces and absence of segments of worms or larvae in faeces after treatment. .

RESULTS AND DISCUSSION

The overall incidence of E. granulosus in dogs i.e. 3.2 per cent is nearly the same as was recorded by Buig *et al* (1986) i.e. 2 per cent.. Recent studies has also shown lesser incidence that reported by Saleh and Ahmad (1965) 7%, Hackctt and Waiter (1975) 26% and Hawkins (1982) 10%. This difference in incidence of E. granulosus may be due to managemental and environmental difference of the dogs under study. The results of therapeutic trials are given in Table 1.

Table 1. Comparative efficacy of Mebendazole & epsiprantat against E. granulosus in Dogs.

ONguoed& Dose rate	No. 01 Casei	E"icacy in Percentage on di"erent days 3rd day	7th day	21st day
Mebendazole (Chanazole)	15	38	72	96
Epalpranta1 (Cestexl	15	32	71	90

The results indicated that Mebendazolc (Chanazole) is the most effective ccstocidal drug with 38, 72, 96 per cent efficacy on day 3, 7 & 21 of the medication respectively. Whereas the recently introduced cestocidal drug i.e. cpsiprantcl (Cestcx) was effective with 32, 71 & 90 per cent on 3rd, 7th & 21st day of medication respectively. Similar efficacy of Mebendazole has also been reported by many workers (Gubrrfro *et al* (1981). Baig *et al* (1986). Similar results regarding the efficacy of epsiprantel were also recorded by Manger & Brewer (1989). The results demonstrated that worms have not yet developed the resistance against any of the ccstocidal drug available currently. Mebendazolc may be preferred in dogs due to lesser Mic, Cost and superior efficacy and also shown it high efficacy in gelling rid of nematode infection. Hence the use of Mcbcndazolc is recommended as a routine dcworrncr (both for nematode and ccstodcs) in dogs. A second course of treatment on 21st day is strongly recommended for complete elimination of worms and its eggs from dogs.

REFERENCES

Baig, M.F., M.S. Mian, A. Rabbani, M. Afzal, T.M. Khan and K. Saeed, 1986. Study of incidence and chemotherapy of cestode infection in dogs. Pak. Vet. J. 6(4): 183-184.

Cole's M.E., 1967. Vet. Clinical Pathology 2nd Edition Saunders Co. Philadelphia.

Gubrrfro, J., Pancari, G., Michael, B. 1981. Comparative anthelmintic efficacy of two schedules of mebendazole treatment in dogs. Am. J. Vet. Res. 42 (3): 425-427.

Hackctt, F. and T.M.H., Waiter, 1975. The prevalence of ccstodcs in farm dogs in

Mid Wales Vet., Parasitol, 7 (2): 95-101.

Hassounah, O. and K. Behbehani, 1976. The Epidemiology of Echinococcus infection in Kuwait. J. Helminth 50: 65-73.

Hawkins, A.B. 1982. A survey of canine cestodes in Goulburn Distt. in N.S.W. Aust., Vet., J. 58 (3): 121-122.

Hyat, C.S., P. Dansco, B. Hayat and M.N. Khan. 1991. Prevalence of Echinococcus granulosus infcstion in stray dogs in Faisalabad (PakistJ.n) Pak. Vet., J. 11 (4): 200-201.

Manger, B.R., Brewer, M.D. 1989. Epsiprantel, a new tape worm remedy, Preliminary efficacy studies in dogs and cat, Br., Vel., J. 145 (4): 384-388.

Salch, M. and Z. Ahmad, 1%5. Intestinal parasitism of 200 dogs in Karachi and their public health significance 2. Parasit Kde. 25: 501-505.

Soulsby, EJ.L. 1982. Helminths, Arthropods and protozoa of domesicated animals 7th Ed. Bailliere Tindall, London.