

THERAPEUTIC EFFICACY OF DORAMECTIN, DIAZINON AND DELTAMETHRIN AGAINST MANGE MITE INFESTATION IN PIG

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ABSTRACT

An experiment was carried out on 90 pigs, naturally infected with sarcoptic scabies to record the rapetic efficacy of doramectin, diazinon and deltamethrin against mange mite infestation. All the animals were divided into 3 groups (groups A, B, C) consisting of 30 animals in each group and group A, B and C were treated with doramectin, diazinon and deltramethrin respectively as per the recommended does. Therapeutic efficacy of drugs was determined on the basis of the presence of mite in the skin scrapping. It was found that doramectin revealed percent efficacy against sarcastic scabies mite in pig, followed by 86.67% with dilation, 76.67% with deltramethrin.

INTRODUCTION

Mango mite infestation of swine is a most prevalent ectoparasitic disease under agro- climatic of condition of Meghalaya. The disease is highly contagious in nature and is caused by a minute parasite *Sarcotes Scabiei* var. *sui*, that spend their entire life cycle on the skin of pig, causing irritation, scaly lesions, loss of hair debility, heavy body weight loss, and low productivity (Radostits et al. 1994).

Various acaricides like doramectin, Diazinon, Deltramethrin are widely used by different workers (Pathak and Chaurasia, 2002, Singh et. Al, 1993, Kamboj, et.al., 1995, Mitra et. Al., 1994) to control the mite infestation in animals. The study on therapeutic efficacy of different acaricides for the treatment of mango infestation particularly in pig is very scanty. Hence, the present study was under taken to evaluate the therapeutic efficacy of doramectin, diazinon and dltamethrin for the treatment of mange mite infestation in pig.

MATERIALS AND METHODS

A total of 90 animal of either sex, 2 to 5 month of age group, naturally infected with Sarcoptic scabie var *Suis* were selected for the study. The experiment was conducted in pig farm, ICAR Research Complex for NEH Region, Umiam, Meghalaya. The animals were divided into 3 groups (Group A, B and C) consisting 30 animals in each group. All the animals were in the same housing, feeding and manage mental conditions. Clinically the affected animals were with rough, thickened, encrusted and raised skin lesions that were dull gray and / or brown in appearance, alpaca mainly in the shoulder and thigh region. Rubbing on the walls and floor is frequently observed in the affected animals. Skin

scrapping of all animals were taken and examined under microscope for the presence of mite (Soulbsy, 1982).

All animals positive for mango infestation was treated as: Group A: treated with doramectin 1% (Dectomax, Pfizer Ltd., Pater Estate, Jogeshwari- W, Mumbai- 400102), dose: 300ug/kg body weight, intramuscularly, single dose. Group B: treated with diazinon liquid 20% (Neocidol 20, Novartis India Ltd., Animal health sector, 14, J. tata road, Mumbai – 400020), dose: 3ml in 1 litre water, dipping for 3 occasions at weekly interval. Group C : treated with deltamethrin (Butox vet, Intervet laboratories Ltd., Briahnagar, Pune, Nagar Road, Wagholi – 412207), does : 4ml in 1 litre water, dipping for 3 occasions at weekly interval.

The therapetic efficacy of doramectin 1%, diazinon 20% and deltamethrin was evaluated on the basis of the presence mite in skin scrapping on 7,14,21 and 28 days post treatment.

RESULTS AND DISCUSSION

The efficacy of different acaricides for the treatment of mange infestation in pig is presented in table 1. In group A, 13 animals (43.33%) out of 30 animals cured on 7th day post treatment, which was indicated by the absence of mite in the skin scrapping. Likewise in- group B and C, 8 (26.67%) and 7 (23.33%) animals showed the absence of mite in the skin scrapping on 7th day post treatment respectively. Fifteen (50%), 10(33.33%) and 9 (30.00%) animals revealed the absence of mite in their skin scrapping on 14th day post treatment in- group A, B and C respectively. Similarly 2, 6 and 4 numbers of animals proved negative for mite on 21st day of post treatment in- group A, B and C respectively. One and 3 numbers of animals showed negative for mite in their skin scrapping in- group B and C after 28th day post treatment respectively.

All the animals in-group A responded to doramectin treatment and no mite was found in the skin scrapping and the overall percentage of efficacy was found to be 100%. Hundred percent of efficacy of doramectin in pig was also reported by Pathak and Chaurasia (2002). The overall percentage of efficacy of diazinon treated group was found to be 86.67. However, Kamboj et.al. (1995) reported 100% efficacy of diazinon in dog after three times application of the drug at weekly interval. The lowest percentage of efficacy among three groups was observed in Group C and the percentage of efficacy was 76.67. Singh et.al. (1994) observed 100% efficacy of deltamethrin against sarcoptic mange in buffalo calves and goats respectively. This difference might be due to difference in species, method of application and dose rate. The cent percent efficacy of doramectin against mite might be due to the fact that every animal received correct, precise dosage required for optimal therapeutic efficacy by the intramuscular route. The less efficacy of diazinon and deltamethrin than doramectin might be due to the improper absorption and application of the drugs on the surface of the body. Out of these three acaricides, one advantage of doramectin is that the application is less laborious than diazinon and deltamethrin.

The average cost of treatment per animal in all 3 groups was almost same through the cost of treatment for single dose was less in group – B & C, but they required 2 to 3 times treatments for good result unlike single injection in group – A.

From the study it may be concluded that doramectin (Dectomax) is the choice of drug for the treatment of mange mite infestation in pigs.

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Table 1. Therapeutic efficacy of doramectin, diazinon and deltramethrin against Saroptie scabies mites in pig

Group Of Animals	Acaricides	Mode of administration	Dose rate	Total Cost of treatment /animal	Nos. of animals	No. of animals negative for mite on Days				Nos. of animals negative for mite	Overall (%) efficacy
						7	14	21	28		
A	Doramectin Cular	Intramus	300 ug/kg. Body wt. (Single inj).	Rs.4.00	30	13 (43.33)	15 (50.00)	2 (6.67)	-	30	100
B	Diazinon	Dipping	3ml in 1 litre water (3 dippings)	Rs.3.80	30	8 (26.6)	10 (33.33)	6 (20.00)	1 (3.33)	23	86.67
C	Deltramethrin	Dipping	4ml in 1 Litre water (3 dippings)	Rs.4.10	30	7 (23.33)	9 (30.00)	4 (13.33)	3 (10.0)	22	76.67