

TREATMENT OF *SARCOPTES MANGE* IN SHEEP WITH CYPERMETHRIN
(ECTOMIN[®] 100 E. C.)

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ABSTRACT

The efficacy of Ectomin[®] 100 E. C. (Cypermethrin) on naturally occurring *Sarcoptes scabiei* var ovis (Sarcoptic mange infected sheep) was evaluated clinical and parasitological responses as studied at intervals of 0 , 10 , 20 and 30 days . The drug was sprayed as 0.1 % concentration and repeated after 10 days for 3 times. The treatment was effective as density of mites was reduced from 201.2 mites / cm² to 105.2 mites / cm² 10 days after the first treatment and to 40.4 mites /cm² after 10 days of the second treatment then no mites observed after the third application . Itching and scratching were reduced on the 20th day of treatment, while complete recovery was observed after 30 days post treatment.

INTRODUCTION

Sarcoptic mange has a wide geographic distribution in many sheep - raising areas of the world. *Sarcoptes mite* prefers regions free from wool, (face, ears , axillae and groin) and has somewhat slow spread. Infected sheep are almost continuously restless, unable to graze and with progressive emaciation⁽¹⁾. A concentration of 0.05% cypermethrin was needed to treat sarcoptic mange in pigs⁽²⁾. Meanwhile , cypermethrin dip was used as spring or autumn treatment for *Psorobia ovis* in sheep flocks in New South wales⁽³⁾.

Cypermethrin has been effectively used⁽⁴⁾ for treatment of *Sarcoptes scabiei* in cattle by spraying route . Cypermethrin at 200 ppm aqueous solution , was applied twice within 11 days interval, completely cured five cattle with severe psoroptic mange⁽⁵⁾. While four cattles infested with *Sarcoptes scabiei* and a few *Psoroptes ovis* treated with cypermethrin remained infested⁽⁶⁾.

In the present study. Ectomin cypermethrin is tried in treatment of Sarcoptic mange in sheep.

EXPERIMENTAL

Animals :

Seven ewes (2 - 5 years old) typically infected with *Sarcoptes scabiei* var. ovis each of 50 - 60 kg body weight were used in this study . The lesions appeared around the eyes and ears (Fig. 1) , also arund lips (Fig. 2) and around joints (Fig 3). The sheep were suffering from shedding of wool, extensive dermatitis and severe itching . They were divided into 2 groups. The first group (treated)

contained five sheep, while the other one contained two sheep and left without treatment as infected control.

The acaricie used was Ectomin[®] (is an ectoparasiticide based on the pyrethroid cypermethrin , Ciba - Geigy Basle, Switzerland) . Common name is Cypermethrin high cis. It has the chemical name (RS) - α - cyano - 3 - phenoxy - benzyl (IRS) - cis, trans- 3- (2,2 dichlorovinyl)- 2,2-dimethy cyclopropanecarboxylate (chemical class : cyclopropane - carboxylate). The sheep of the first group were treated with the known concentration of freshly prepared solution (0.1% in tap water) of Ectomin. Animals was sprayed by using hand sprayer(with about 1 - 2 liter for each one). Each animal in the first group was sprayed with 1 - 2 liters of the diluted acaricide.

A total of three applications were made at an interval of 10 days between each application . Parasitological examinations of the sheep in the first group (treated) and the second group (untreated) infected control before application of Ectomin on day zero, were carried out . Then, these examinations were repeated 10 days after first, second and third spraying . Skin scrapings were collected from one square centimeter (cm²) at 3 infected places of skin. The scrapings were kept in 10% KOH for 24 hours and then the number of mites per square centimeter was counted⁽⁷⁾.

RESULTS

Treated infected sheep with *Sarcoptes scabiei* var ovis was responded to Ectomin[®] 100 E. C. (0.1% in the tap water) after the second application.

Clinical signs of dermatitis and itching were gradually reduced until 100% recovery after the third application. Where the lesions were completely disappeared and the growth of wool has taken place.

There was no change in lesions and symptoms of infected untreated control sheep. In the treated group, the number of mite parasite was reduced from 201.2 mites / cm² of skin scraping (180 - 224 mites/cm²) before treatment to 105.2 mites / cm² after the 1st application, 40.4 mites / cm² after 2nd application and to zero/ cm² after 3rd application. While the untreated control group still positive along the experiment. The results of counting before and after treatment are shown in Table (1).

DISCUSSION

The obtained results indicated that spraying of the acaricide Ectomin (a synthetic pyrethroid) 0.1 % in tap water for 3 times with 10 days interval proved to be very effective in treating *Sarcoptes scabiei* var ovis in sheep. The number of mites decreased gradually to 52% after the first spray and to 20% after the second spray and finally to zero% after the third spray.

The obtained results depended on the use of the three applications by the spray method (not by dipping) and without removal of the scales from the affected parts in the treated animals.

Table (1) : Number of mites (*Sarcoptes scabiei* var ovis) per square centimeter of skin in sheep before and after treatment with Ectomin[®] 100 E. C.

Group	Number of sheep	Number of mites / cm ²			
		0	after 1st treat. (10)	after 2nd treat. (20)	after 3rd treat. (30)
Infected treated sheep	1 st	224	116	54	0
	2 nd	210	114	48	0
	3 rd	200	100	36	0
	4 th	192	100	34	0
	5 th	180	96	30	0
	mean	201.2	105.2	40.4	0
Infected untreated (control) sheep	1 st	214	218	220	224
	2 nd	196	206	212	220
	mean	205	212	216	222

Our results were in full agreement with those previously obtained by several authors (2). They reported that cypermethrin was very effective

against sheep scabiei. However, our results were not in accordance with those recorded by

Plamer et al. (6). They found that four dairy cows treated with cypermethrin (2,3) sprayings remained infested.

Thus, we recommend the spraying method in infected sheep which is simple and easily applied.



Fig. (1) : Lesions around the eye and ear.



Fig. (2) : Lesions around lips.



Fig. (3) : Lesions around joint.

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علاج الجرب في الأغنام باستخدام الأكتومين ١٠٠ E.C.

نجوى جمال مرسى

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تمت هذه الدراسة على سبعة أغنام مصابة بالجرب السركويتى وكانت أعمارها تتراوح بين عامين وثلاث أعوام . تتكون المجموعة الأولى من خمسة أغنام تم علاجها بالأكتومين (سيبرمثرين) بتركيز ٠.١٪ وتتكون المجموعة الثانية من غنميتين تركت بدون علاج .

وجد أن الأكتومين يعطى نتيجة فعالة فى حالة علاج الجرب السركويتى فى الأغنام بعد ثلاث رشات بين كل رشة والأخرى عشرة أيام ، حيث يقل عدد حشرات الجرب فى السنتيمتر المربع من جلد الحيوان قبل الرشة الأولى من ٢٠.١ إلى ١٠.٢ قبل الرشة الثانية ثم إلى ٤.٤ قبل الرشة الثالثة ثم تم القضاء على الطفيل نهائياً بعد الرشة الثالثة وأختفى أثر المرض تماماً .