The Treatment of Cattles with Dermatofitozis Via Enilconazole

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Abstract: Study material consisted as 15 experiment and 8 control, totally 23 cattle that possessed by 2 breeders
and together housed in Afyonkarahisar province, Suut district, Kilickaya village; despite vaccine used two
times for medicinal purpose displaying no recovery; aged at between 3 and 12 months, diagnosed as
dermatofitozis by clinically and microbiological. Being clinical for dermatofitozis the animals in experiment and
control groups were examined if there were lesions on the head and dem or not and was categorized as light,
blond and acute according to its frequency. The clinical status were examined according to the localization,
ampitude and number of lesions. During the study any change was done in condition of animal care, nutrition
and shelter. The experiment group was made up 15 cattle; two of them were examined as light, five of them were
examined as blond and eight of them were examined as acute and the control group was made up 8 cattle; one
of them was examined as light, third of them were examined as blond, fourth of them were examined as acute.
Ten percent Enilconazole solution was applied in 4 mg kg⁻¹ dose three days apart as externally to the animals
in experiment group. The first application to entire body of the animal and the subsequent 4 applications were
done externally in the style of spray to the parts where the dermatofitozis lesions were appeared. The cattle in
the control group weren’t applied any therapy. Following the drug administration, in second and fourth weeks
a decrease in the keratinized tissues and becoming pilosity were observed in the lesional parts in all experiment
group animals. It was seen in the 6th week that keratinized tissues completely decreased, pilosity became dense
and the healing was faster. It was determined in the 8th week that lesions recovered completely. It was seen that
when any application was made to the control groups animal there were no change in dermatofitozis lesions.
As a result, it was of the opinion that owing to easy using, being curative in a short time and being economic
of the 10% enilconazole solution was a useful and an alternative medicine for the dermatofitozis therapy in the
cattle.

Key words: Dermatofitozis, enilconazole, cattle, recovery, experiment group

INTRODUCTION

Dermatofitozis is an important infection in terms of human and animal health (Gokce et al., 1999;
Kirimizigul et al., 2008). Even though, it creates a superficial skin disorders, it causes in the effected cattle live weight
loss, growth deficiency, depending on disease emerged loss of meat and milk, impairment of quality integument
and also causes economic loss depending on the difficulty in purchase and sale of diseased animal.
Moreover, as a disease zoonoz causes substationally danger in terms of health of especially people who do
care for animals, children and vet (Gudding and Lund, 1995; Imren and Sahal, 1994; Parker and Yager, 1997;
Gokce et al., 1999; Cenesiz et al., 2007).

Fungius named as dermatophytes connected to genus of trichophyton, microsporum and epidermophyton
causes the disease (Parker and Yager, 1997; Gokce et al., 2009; Moriello, 2001; Cenesiz et al., 2007). Trichophytes
of cattle is constituted almost only by Trichophyton verrucosum and occurs as a table of enzootic chronic
disease usually in under an age of young animals. The most common factor in cattle dermatofitozis is
T. verrucosum (Takatori et al., 1993; Gudding et al., 1995;

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MATERIALS AND METHODS

Animal material: Study material consisted of 15 experiment and 8 control, totally 23 cattle that possessed by 2 breeders and together housed in Afyonkarahisar province, Sult district, Kilikaya village.

Clinical examinations: By making clinical examinations in terms of dematofitosis, experiment and control group animals were examined if lesions on the head and skin are found or not and were assessed according to its severity as light, bland and acute. As a result of clinical examinations of animals, dematofitosis lesions were detected in different degrees on head, neck and back regions of the 23 Clinical status of the animals, the localization of lesions, size and numbers were assessed. According to this, in the experiment group, two phenomenon were assessed as light that had 2-5 lesions approximately, 1-2 cm in diameter in the head, neck and other parts of the body. 5 phenomenon were assessed as bland that had 5-10 lesions 2-4 cm in diameter in other regions of the head neck and body; 8 phenomenon were assessed as acute that had more than 10 lesions 4-6 cm in diameter in the other parts of head, neck and body. Control group was created from 8 cattle; one of them was assessed as light, 3 of them were assessed as bland and four of them were assessed as acute (Fig. 1).

Myological culture: From the regions with lesions on the skin of all animals in experiment group in the study, after cleaned by wiping with a cotton that was sunk in 70% etil alcohol, skin scrapings and hair were taken with the help of sterile bisturis in the edges of regions with lesions. Taken samples were transected of the direct microscopic examination, isolation and identification. Taken skin scrapings and hair were treated with 10% potassium hydroxide (KOH) and were examined in the 10 and 40x lenses, after the preparation of prepare between lame,

Fig. 1: Before the treatment
und lamella. In the examination, the seen typical spor, arthrospore and hyphas were assessed as positive in terms of dermatotisias.

The taken from the areas with lesions and sanitary derm areas of the cattle skin scrapings were planted with Sabouraud Dextrose Agar (SDA) the sloping stab method and were incubated at 32°C in aerob humid ambient for 2-6 weeks period. During the incubation, microscopic characteristics of colonies were examined every day. In the microscopic examination, prepares that was prepared from the culture, were examined in terms of hypha, mycelium, spor and chlamydispor, macro and micro conidiums (Moriello, 2001; Kirmizigul et al., 2008).

**Treatment method:** A 10% Enclonazole solution was applied in 4 mg kg⁻¹ dose 3 days apart as externally to the animals in experiment group. The first application to entire body of the animal and the subsequent 4 applications were done externally in the style of spray to the parts where, the dermatosis lesions were appeared (Kirmizigul et al., 2008). The cattle in the control group weren't applied any therapy. Being assessed the convalescences in 15 days apart following the the drug administration, records were kept for a period of 2 months. In assessment, the symbol (-) was assessed as 'no recovery', the symbol (+) was assessed as 'spillage of keratinized tissue', the symbol (+++) was assessed as beginning of usage and the symbol (++++) was assessed as full recovery.

**RESULTS**

**Clinical symptoms:** In the clinical examination, dermatosis lesions were localized in the control and experiment groups animals, tenth of them had lesion on their head, eight of them had lesions on their head and neck, two of them had lesions on their neck and third of them had lesions on different parts of their bodies.

Following the drug administration, in second and 4th weeks a decrease becoming in the keratinized tissues and becoming pilioty were observed in the lesional parts in all experiment group animals (Fig 2 and 3). It was seen in the 6th week that keratinized tissues completely decreased, pilioty became dense and the healing was shown in Fig 4. It was determined in the 8th week that lesions recovered completely (Fig 5 and 6). It was seen that when any application was made to the control groups animal there were no change in dermatotisias lesions. In the within group statistical analysis (variance) that was made 15 days apart in experiment group animals, improvement rates were assessed as significant at a level of p<0.001 (Table 1).
Table 1: There are the assessment of the recovery that seen in the lesions of the experiment group animals according to 15 days and within group statistical analysis.

<table>
<thead>
<tr>
<th>Experiment group</th>
<th>Animal No.</th>
<th>Improvement period (weeks)</th>
<th>2nd (5±SE)</th>
<th>4th (5±SE)</th>
<th>6th (5±SE)</th>
<th>8th (5±SE)</th>
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<tr>
<td>With light</td>
<td></td>
<td></td>
<td>+</td>
<td>++</td>
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<td>+++</td>
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<tr>
<td>lesions (n=2)</td>
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<td>+</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
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<td></td>
<td></td>
<td>1.04±0.0c</td>
<td>2.04±0.0b</td>
<td>3.04±0.0a</td>
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-: No recovery +: Spillage of keratinized tissue ++: Beginning of usage; +++: Full recovery; In statistical assessments has been valued as + (1); Within-group statistical analysis according to 15 days in experiment group animals, improvement rates were assessed as significant at a level of p<0.001

Fig 6: Sixth day after treatment

*Trichophyton verrucosum* was isolated in the 13th of them, *T. mentagrophytes* was increased in one of them, *Aspergillus* sp. was increased in one of them.

**DISCUSSION**

Dermatotitos is an important infection in terms of human and animal health (Gokce et al., 1999; Kirmizigul et al., 2008). Moreover, as a disease known causes substantial danger in terms of health of especially people who do care for animals, children and vet (Imren and Sahal, 1996; Gokce et al., 1999). Even though, it creates a superficial skin disorders it causes in the affected cattle live weight loss, growth deficiency, depending on disease emerged loss of meat and milk, impairment of quality integument and also causes economic loss depending on the difficulty in purchase and sale of diseased animal (Imren and Sahal, 1994).

*Fungus* named as dermatophytes connected to genus of trichophyton, microsporum and epidermophyton causes the disease (Parker and Yager, 1997; Gokce et al., 1999; Ceneaz et al., 2007). *Fungus* named as dermatophytes connected to genus of trichophyton, microsporum and epidermophyton causes the disease. *Trichophyton verrucosum* is causative agent of dermatotitos and occurs as a Table 1 of epidermophyton chronic disease usually in under an age of young animals. The most common factor in cattle dermatotitos is *T. verrucosum* (Gudding and Lund, 1995; Parker and Yager, 1997; Gokce et al., 1999; Ceneaz et al., 2007).

Dermatotitos events among the infectious diseases of cattle show a wide spread all over the world. The severity of disease in cattle show an alteration according to the number of sports and virulence of factor. Also, the severity of disease can be change according to the age and constitution of animals. Mostly animal care and breeding, high relative air humidity, barn temperature, vitamin A Table 1, number of animal, age, the number of sport in ambient bad hygienic conditions and immunity of animals have role in the epizoology of dermatotitos (Imren and Sahal, 1994; Burt, 2001; Ceneaz et al., 2007). Owing to the long winter in Afyon region and hosting of animals in unsuitable weather conditions the frequency of the illness is on the increase. In this research it was seen that the barns of the animals with dermatotitos infection were unventilated and humidity and the animals were closely spaced together in their barns (Fig 7 and 8). As reported in earlier studies, it shows similarities in the studies, too.

It is notified that the cause of dermatotitos in cattle and closely isolated sort of the fungus is *T. verrucosum* and also, different types of it, causes dermatotitos.
antimycotic (Thienport et al., 1981; Burt, 2001; Kirmizigil et al., 2008). Following the drug administration, in 2nd and 4th weeks a decrease in the keratinized tissues and becoming pilosity were observed in the lesioned parts in all experiment group animals (Fig. 2 and 3). It was observed in the 6th week that keratinized tissues completely decreased, pilosity became dense and began the recovery (Fig. 4). Complete recovery of lesions was determined in 8th week (Fig. 5 and 6). It was seen that when any application was made to the control groups there were no change in dermatofitosis lesions. In the within-group statistical analysis (Variance) that was made 15 days apart in experiment group animals, improvement rates were assessed as significant at a level of p<0.001 (Table 1).

**CONCLUSION**

In one of the study, Kirmizigil et al. (2008), used oil based 10% Enilconazole in the way of interleaving from the back and they reported that the dermatofitosis lesions recovered quickly in the region, in which the drug was applied. The administration shows similarities with this study. As a result, it was of the opinion that owing to easy using being curative in a short time and being economic the 10% enilconazole solution was a useful and an alternative medicine for the dermatofitosis therapy in the cattle.

**REFERENCES**


