

Alternative Therapy of Skin Diseases in Cattle

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Abstract

Fifty two cattle were clinically examined and found affected with multi-focal alopecia, pyoderma, and polypnea in some cases. Laboratory examination confirmed *Staphylococcus* sp, fungus, yeast and ectoparasites. Antibiotic sensitivity test showed, the organisms were resistant to most of the antibiotics. The organisms were found to be sensitive to mixture of aqueous seed extract of *Sesamum indicum* and *Citrus limon* fruit juice in agar well diffusion test. Six cattle kept as control. 10 cattle (group A) were administered Ivermectin at 0.2 mg/kg body weight subcutaneously once and Povidone Iodine ointment applied externally for 7 days. 36 cattle (group B) orally administered the mixture of palm jaggery, common salt, *Sesamum indicum*, buffalo ghee and *Citrus limon* for 7 days. No recovery noticed in control. Group A and B showed 30% and 89% recovery respectively.

Keywords: Cattle; Skin diseases; *Sesamum indicum*; *Citrus limon*

Introduction

Skin disease is very common in cattle globally. Greatly affect the economy by reduced production and performance. There is no specific, economical and successful treatment regimen. Resolving such problems an alternative medicinal regimen is tried successfully and recommended.

Material and Method

In Tamil Nadu, India, over four months period fifty two cattle of different breed, age and sex, clinically presented for severe rubbing of body against hard objects and hair loss in bunches.

Clinical examination revealed pruritus, restlessness, multi-focal alopecia, folliculitis, udder impetigo, suppurative lesions, weeping surface, reduced feed intake and yield, and with or without polypnea.

Cutaneous samples collected include swab, scrapings, biopsy and tissue fluids and scotch tape impression. Collected specimens were inoculated in Blood agar, Mac Conkey agar and incubated at 37°C for 48 hours. This revealed mostly *Staphylococcus* sp and other microorganisms. Atypical *Malassezia* sp. were also identified.

Most of the specimen showed fungal species, *Aspergillus niger*, *Microsporum gypseum*, *Trichophyton mentagrophytes* and *Candida albicans*. Ectoparasites, *Rhipicephalus* sp, *Boophilus* sp, *Hyalomma* sp and *Ornithodoros* sp were detected.

Antibiotic sensitive test showed resistant to tetracycline, penicillins, cephalosporins, moderately sensitive to chloramphenicol and streptomycin. Sensitivity and high sensitivity not found to any antibiotics including antifungals. But most of the organisms were found to be sensitive to mixture of seed extract of *Sesamum indicum* and *Citrus limon* fruit juice (1:1 ratio) in agar well diffusion test.

Treatment

Of the fifty two, control group six cattle received no treatment. Group A treated with Ivermectin (Hitek Platinum-Virbac) 0.2 mg/kg body weight subcutaneously for once. Povidone Iodine (Barrier cream 5% w/w-Obcow) applied externally, for 7 days.

Group B treated with herbal preparation containing palm jaggery 1.5 kg, common salt 100 gram and *Sesamum indicum* seeds 100 gm altogether were ground into a paste, to which 1 litre buffalo ghee and *Citrus limon* 10 in numbers extract juice blended. Approximately 300 gm per day of this mixture administered orally 7 days.

Results

Control animals showed no recovery. In group A, 3 cattle showed recovery. In group B convalescence noticed from 4th day onwards, and 32 cattle found completely recovered by 7th day of the treatment.

Discussion

Scratching and alopecia are among the most common signs of skin disease in cattle [1]. Causes include ectoparasites, bacteria, viruses, external irritants, allergic reactions, fungi and trauma, also rarely autoimmune. Though, there are only very few literatures citing significance to seriousness of alopecia and dermatitis in bovine and necessary treatment. Widely known, Ivermectin as endectocide and Povidone iodine as antiseptic/antimicrobial are used. But nonetheless has yet proved to be a most effective therapy. An alarming number of bacteria species has developed antibiotic resistance and one of greatest concern over the past 5 years is *S. aureus* causing notable skin disease [2].

Palm jaggery as a base provides palatability of the admixture, the fresh sap of *Palmyra palm* is a laxative and the jaggery is an energetic [3].

Erich reported that, oral table salt intake has a sort of defence mechanism against the highly toxic protein disintegration products

which occur in pemphigus [4]. Common table salt is an effective antibacterial agent and also it gives palatability [5].

Sesamum indicum seed oil which contains vitamins A and E, and several essential proteins, is antibacterial, antioxidant and antifungal. In human medicine, *S. indicum* helps heal dry skin, psoriasis, dandruff, skin fungi, athlete's foot, acne, mild scrapes and cut and diaper irritation [6]. The seeds and oil applied topically or administered orally possesses wound healing activity. The seeds possess potent antioxidant effect due to the presence of sesamol [7]. It is also effective against acaricide-resistant-tick infestation in cattle when applied topically [8].

Buffalo ghee is rich in vitamin D [9], which promotes healthy and rapid healing of the skin [10]. It improves skin complexion and quality [11]. It is also used as an ingredient in treating leprosy and skin diseases [12].

C. limon is antibacterial, antifungal, anti-inflammatory, antimicrobial and antiseptic [13]. Fresh lemon juice taken orally to relieve skin disorders was practiced from time memorial [14].

This research was done anchoring alternative medicine and results found more promising for skin diseases in cattle.

This can be economical and cost-effective, but also requires further validation and standardization with a view towards integrating it into orthodox veterinary medicine.

Summary

The study demonstrated alternative medicinal formula containing palm jaggery, common salt, *S. indicum*, buffalo ghee and *C. limon* is potentially better to treat commonly existing skin infections in cattle and thus provides cost effective standby to allopathic medications.

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