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Case Study

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Therapeutic Management of Udder Impetigo in Cows

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ABSTRACT

Two cases of cows were presented to VCC, LUVAS, Hisar, with history of creamish yellow colour, painful lesions on teats and udder with intermittent disappearance and reoccurrence since two months. Clinical observations and laboratory findings revealed that the cases were of udder impetigo. Based on the antibiogram profiling, both the cows were treated with strepto-pencillin 2.5 gm I/M, ketoprofen 3 mg/kg b.wt. I/M and ascorbic acid 20 mg/kg b.wt. I/M for seven days along with local application of povidone iodine on the effected parts of the teats and udder. The lesions started to subside after four days of treatment and completely cured in ten days.

Key words: *Udder impetigo; Teats; Treatment; Strepto-penicillin; Povidone iodine.*

INTRODUCTION

The udder and teat are the most valuable body parts in milch animals. Lesions on these may cause deterioration of animal health, problems in milking, decrease in milk yield, development of mastitis and economical losses to the farmers[1]. Primary bacterial infections of the udder skin are likely to be purulent and present as discrete pustules. Bacterial infections due to *Staphylococcus aureus* leads to udder impetigo which is characterized by small, 2-4 mm diameter pustules at the base of the teat and later on these may spread to entire teat and the skin of the udder. The udder skin is often involved, especially areas of folding, notably the intermammary sulcus and the lesions may be painful[2]. In the early stages of the disease each vesicle is surrounded by a narrow zone of erythema. Later on the vesicles develop into pustules. Rupture of the vesicles occurs readily. Involvement of hair follicles is common and leads to the development of acne and deeper, more extensive lesions. Confirmation of the diagnosis is recommended through culture of vesicular fluid and identification of the causative bacterium and its sensitivity[3].

CLINICAL HISTORY AND LABORATORY FINDINGS

Two clinical cases of the cows were presented to VCC, LUVAS, Hisar with history of pustules on the mammary glands.

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Owner reported that his two animals (Sahiwal cow five years old and Holstein Friesian cow four years old) were affected with numerous small pustules of creamish yellow colour on the lateral sides and in the well of the udder (fig. 1). The lesions were painful and there was decrease in milk yield. Owner reported that the lesions started to develop two months ago and the owner locally applied commercially available antiseptic solution containing chloroxylenol on the affected areas of teats and udder in both the animals, but there was reoccurrence of the same type of lesions in both the animals repeatedly. For confirmation of the organism, milk samples in sterile vials and fluid from the lesions were collected aseptically through sterile disposable swabs for microbiological culture examination and antibiotic sensitivity test. After collection, the samples were immediately streaked onto the blood agar and nutrient agar plates. The plates were incubated at 37°C, and the colony characteristics on the plates were observed after 24 hours. Cultural examination revealed presence of *Staphylococcus* spp. in milk samples as well as in skin lesions samples. Result of antibiotic sensitivity test of milk and skin lesion samples in sahiwal cow revealed that the organism was sensitive to enrofloxacin, streptomycin, penicillin G, and chloramphenicol; while it was resistant to amoxicillin, ceftriaxone, ampicillin, neomycin, amikacin, oxytetracycline, cloxacillin and cefoperazone. The antibiotic sensitivity test of milk and skin lesion samples in Holstein Friesian cattle revealed that the organism was sensitive to ceftriaxone, penicillin G, streptomycin, and chloramphenicol; while it was resistant to amoxicillin, ampicillin, enrofloxacin, neomycin, amikacin, oxytetracycline, cloxacillin and cefoperazone. For microscopic examination Gram staining of the bacterial cultures was carried out. On microscopic examination presence of cocci-shaped, purple coloured (Gram-positive) bacteria arranged in “grape-like” clusters were observed (Fig 2). On biochemical examination with catalase test, the organisms were found to be positive for the test.

Figure 1

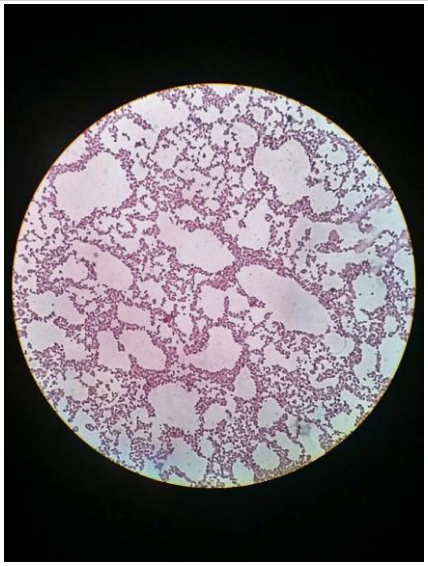

Figure 2

TREATMENT AND DISCUSSION

Both the cases of cows were having the same clinical symptoms and duration of disease. The animals were affected with vesicle lesions leading to pustules of creamish yellow colour with pain. Clinical findings and laboratory tests revealed that the cases were of udder impetigo as *Staphylococcus* spp. in the milk samples and skin lesion samples were isolated. The isolation of *Staphylococcus* spp. in all the samples indicates its common association with staphylococcal mastitis[3]. *Staphylococcus* spp. can spread through contact from one animal to another during milking operation[4]. Similar finding was reported by Sharma and Singh[5]. They reported the outbreak of the udder impetigo cases in a herd of dairy cattle. The reoccurrence of the disease reported by the owner was due to successive crops of vesicles which lead to the prolonged duration of the disease[6]. Based on the antibiogram profiling, both the animals were treated with strepto-pencillin 2.5 gm I/M, ketoprofen 3 mg/kg b.wt. I/M, ascorbic acid 20 mg/kg b.wt. I/M for seven days along with the local application of povidone-iodine on the effected parts of the mammary glands three times daily until the lesions cured. The lesions started to subside after four days of treatment and completely cured in ten days. The successful outcome of the therapeutic regimen reported here may be helpful to many field practitioners also for treatment of such cases.

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