

Congenital Dermatophilosis In A Cross Bred Ndama/Muturu Calf

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Citation

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Abstract

Dermatophilus congolensis was isolated from a cross bred Ndama/Muturu calf born congenitally with Dermatophilosis, and the calf responded to treatment with oxytetracyclin at 20mg/kg body weight.

INTRODUCTION

Dermatophilosis is a highly contagious exudative dermatitis which affects all ages and sexes of domestic and wild animals. Among the domestic animals, it affects mainly cattle, sheep, horses and goats, but has also been reported in other species including man (¹). The disease is caused by the bacterium *Dermatophilus congolensis*.

Dermatophilosis has been reported in many young species of animals. It has been reported in cow calves and buffalo calves. (^{2, 3}). A report (⁴) observed the disease in a white tailed deer fawn, while (⁵) reported it in twin white tail deer fawns. (^{6,7, 8}) have also reported the disease in lambs and calves. Another report (⁹) had reported the case of dermatophilosis in a two day old calf as one of the earliest cases of dermatophilosis in a young animal. Though dermatophilosis has been observed in young animal species, the authors are of the view that this might be the first report of congenital dermatophilosis in a calf.

CASE REPORT

A calf born with skin lesions was presented to the Dermatophilosis Research Laboratory of the National Veterinary Research Institute, from a nearby herd belonging to the Nigerian Institute for Trypanosomiasis Research on the second day after birth. A visit to the herd revealed that the Ndama dam had lesions around the udder and had been previously treated with oxytetracyclin (Terramycin, LA Pfizer) Long Acting at 20mg/kg. Physical examination of the calf showed that the calf had scabby lesions all over the body that were very palpable on touch, but scarcely visible because of the hair covering. The calf was treated with oxytetracyclin (Terramycin LA Pfizer) at 20mg/kg. After

one week the calf was evaluated for response to treatment. It was found that almost all the scabs had completely disappeared.

ISOLATION

Skin scabs were collected and processed for detection and isolation of *Dermatophilus congolensis* by both direct smear and culture. The skin scabs were treated according to the method of (¹⁰) for the isolation of the organism Briefly a piece of skin scab was macerated and put in a clean sterile bijoux bottle containing sterile distilled water and incubated in an anaerobic jar for 45 minutes at 37C, after which it was brought out and a loopful taken from the surface of the water was streaked on 10% blood agar and incubated anaerobically at 37C for 48 hours.

DIRECT SMEAR

A loopful of the treated scabs described above was made and a wire loop was used to make a smear on a clean grease- free slide, heat fixed over a Bunsen burner and Gram stained.

RESULTS

Branching filamentous Gram-positive organisms with rows of coccoid cells transversely and horizontally characteristic of *Dermatophilus congolensis* were observed from the direct smear.

Small to medium sized grayish colonies pitting into the medium typical of *Dermatophilus congolensis* were observed on the blood agar. The colonies were non-acid fast and catalase positive.

DISCUSSION

Congenital dermatophilosis has never been described and

this is apparently the first report of such a case. This report therefore presents further mystery about the pathogenesis of dermatophilosis. There has been conjecture among research workers regarding the inheritance of susceptibility to Dermatophilosis⁽¹¹⁾. Other authors⁽¹²⁾ have observed that the most important predisposing factors in the pathogenesis of dermatophilosis are prolonged wetting and mechanical damage to the skin. The condition in the uterus presents the possibility for the infection of the skin of a full term fetus, considering the amniotic sac and fluid. The puzzling question however, is how the organism got into the uterus to infect the fetus. This observation opens a wide area of interest for further investigations on pathogenesis of dermatophilosis under different conditions. Studies on the pathogenicity of *Dermatophilus* have succeeded only in localized skin lesions⁽¹³⁾. While attempts to reproduce the generalized clinical infection similar to that encountered in natural field cases have failed^(14, 15, 16).

The zebu and exotic breeds of cattle are believed to be more susceptible to dermatophilosis than other breeds, notably Ndama and Muturu⁽¹⁾.

This case of a crossbreed calf from an Ndama dam and a Muturu bull, which are normally known to be less susceptible to dermatophilosis manifesting lesions of dermatophilosis, most probably inherited from the dam, is an unusual case which deserves to be reported. However this case opens doors for further studies on methods of infection by *D. congolensis*. It has also highlighted the possibility of congenital dermatophilosis in cattle.

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