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Successful Therapeutic Management of Cutaneous Aspergillosis in Kangayam Calf

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Introduction

Aspergillosis is a rare opportunistic fungal infection produced by a range of species, the most prevalent of which are Aspergillus fumigatus, Aspergillus flavus, and Aspergillus niger. Primary cutaneous aspergillosis is an uncommon fungal infection in bovines (1). Aspergillosis begins as a pulmonary infection subsequent to inhalation of fungal spores. In the immunocompromised hosy, haematogenous dissemination and invasion of other organ systems, including the skin, often follows the initial pulmonary infection (2). Clinically, the lesion is characterised by macules, papules, plaques, or hemorrhagic bullae that may proceed to necrotic ulcers coated in a thick layer of black eschar.

Case history and clinical examination : A five months old Kangayam calf was presented with the history of itching and scab like lesions throughout the body for the past 2 months with alopecia. The owner reported that the animal had been treated with ivermectin and antibiotics but no any improvement was noticed. On clinical examination the animal was dull and depressed, all vital parameters were in normal range, scab like lesions were observed on facial and anterior part of the body with blood filled blisters and discolouration of skin in neck region (Fig.-1). Itching was also noticed.

Diagnosis : Skin scrapping was negative for any parasitic mites but on Sabouraud Dextrose Agar it showed cottony black colonies with beige underside on 40X microscopic examionation (Fig.-2). Based on history, clinical examination and scrapping, this case was diagnosed as cutenous aspergillosis.

Therapeutic management : The animal was treated with tablet ketoconazole @10 mg/kg body weight orally, ointment whitfield topically and syrup tefroli forte (liver tonic) @20 ml per day orally. This treatment protocol was continued for two weeks. Recovery was noticed from the tenth day of treatment no itching (Fig.-3).

Discussion

Cutaneous aspergillosis is caused by *A. flavus, A. fumigatus*, and rarely, *A. niger*. It affects the lungs, central nervous system, naso-orbital area, skin, and can be disseminated. Primary cutaneous aspergillosis can manifest as macules, papules, plaques, or hemorrhagic bullae, which can proceed to necrotic ulcers coated in a thick layer of black eschar. *A. fumigatus* was grown from a skin biopsy material that included branching hyphae. A combination of surgical debridement and multi-drug antifungal chemotherapy was used to treat cutaneous aspergillosis. ketoconazole was utilised as the first line of treatment for localised lesions (3,4).

Conclusions

Ketoconazole is an imidazole compound chemically linked to earlier antifungal medicines in this class such as miconazole and econazole. In vitro, it shows antifungal action against dermatophytes, yeasts, dimorphic fungi, eumycetes, actinomycetes, and certain phycomycetes and other fungi. Ketoconazole inhibits cytochrome P-450

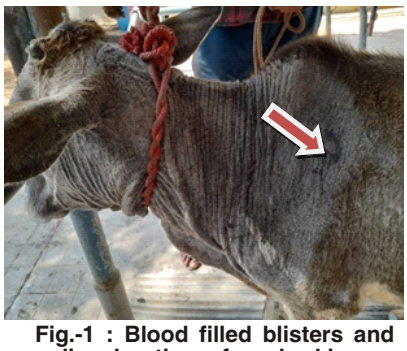

Fig.-1 : Blood filled blisters and discoloration of neck skin.

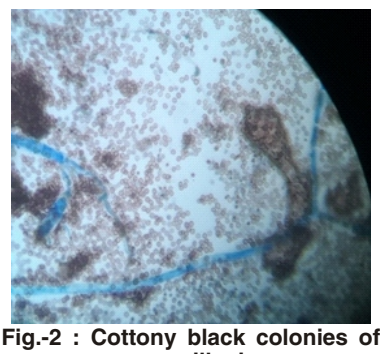

Fig.-2 : Cottony black colonies of aspergillosis.

Fig.-3 : Recovered animal.

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enzyme system and potentiates toxicities of several drugs like warferin, cyclosporine, phenytoin and H1-receptor blockers. Thus ketoconazole is an effective medication in the treatment of cutenous aspergillosis condition.

Conflict of Interest

The authors declare that they have no known competing financial interests of personal relationship that could have appeared to influence the work reported in this paper.

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