Email: biovetinnovator@gmail.com Official Website: *https://biovetinnovator.in/*
Fueling The Future of Science… ISSN: 3048-8397

Bio Vet Innovator Magazine

Volume 2 (Issue 4) APRIL 2025

OPEN ACCESS | WORLD VETERINARY DAY – 26 APRIL 2025 | CASE REPORT

An Unusual Case of Primary Cutaneous Aspergillosis in A Kangayam Calf - A Case Report

K. Sasikala[1], S. Sivaraman[2], D. Sumathi[3], R. Ravi[4] and G. Senthilkumar[5]
1Assistant Professor,
Department of Veterinary Clinical Medicine, Veterinary College and Research Institute, Namakkal 637 002, Tamil Nadu, India
***Corresponding Author:** sasikalakaliapan@gmail.com
DOI: https://doi.org/10.5281/zenodo.15333018

Received: April 13, 2025
Published: April 20, 2025

Abstract:

A five months old Kangayam calf was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the history of itching and scab like lesions throughout the body for the past 2 months. Feeding habit was reported to be normal and it has not responded to antibiotic therapy. On clinical examination the animal was active and alert with normal vital signs. Blood filled blisters and discoloration of skin was noticed in the neck region. Scab like lesion was more prominent in the head, ears, legs and brisket region. Haemato-biochemical parameters were within the normal range. Skin scraping was negative for parasitic mites. On Sabouraud Dextrose Agar cottony yellowish white colonies with beige underside were observed after 48 hours of inoculation and the fungus was identified as *Aspergillus niger* on the basis of colour, spreading pattern and sporangia. Calf was administered with ketoconazole @ 10mg/kg (PO) for 4 weeks along with topical application of Whitfield ointment and liver supplements. Animal made an uneventful recovery after treatment.

Introduction:

Aspergillosis is an infectious, non-contagious fungal disease caused by ubiquitous opportunistic saprophytic fungus *Aspergillus* which affects all domestic animals, birds as well as many wild species (Beernaert *et al.,* 2010; Seyedmojtaba *et al.,* 2015). It caused severe respiratory distress, bilateral mucopurulent nasal discharge, skin nodules on the ears and dorsal nasal region and focal depigmentation of the ventral commissure of the right nostril in goats (do Carmo *et al.,* 2014). It is primarily a respiratory infection and cutaneous aspergillosis is an uncommon fungal infection in bovines. Diffuse erythema, severe irritation, generalized loss of hair, alopecia, scratching on hard surfaces and weld iron meshes of the shed, mutilated ulcers and matty encrustations were observed in goats with

cutaneous aspergillosis (Soundararajan *et al.,* 2019). Very few literatures are available regarding cutaneous aspergillosis and this present case describes the successful management of cutaneous aspergillosis in a Kangayam calf.

Case History and Clinical Observations:

A five month old Kangayam calf was presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the history of itching and scab like lesions throughout the body for the past 2 months. It has not responded to the therapies with antibiotics and anti-inflammatories. Feeding habit was reported to be normal. On clinical examination the animal was active and alert with normal vital signs. Blood filled blisters, generalized hair loss, alopecia, discolouration of the skin and itching were noticed in the neck region. Scab like lesions with mutilated ulcers were more prominent in the head, ears, legs and brisket region (Fig. 1&2).

Fig. 1 & 2 - Scab like lesions with mutilated ulcers in the head, ears, legs and brisket region

Fig. 3 Cottony yellowish white colonies with beige underside on SDA agar

Fig. 4 *Aspergillus niger* with dark brown spores

Citation: K. Sasikala, S. Sivaraman, D. Sumathi, R. Ravi and G. Senthilkumar. (2025). An Unusual Case of Primary Cutaneous Aspergillosis in A Kangayam Calf - A Case Report. In Bio vet innovator magazine (Vol. 2, Issue 4, pp. 34-37). Bio vet innovator magazine. https://doi.org/10.5281/zenodo.15333018

Haemato-biochemical parameters were within the normal range. Skin scraping was negative for parasitic mites. Hair plucks were subjected for both bacterial and fungal culture. No growth was observed in bacterial culture. On Sabouraud Dextrose Agar cottony yellowish white colonies with beige underside were observed after 48 hours of inoculation (Fig. 3).

The cellophane tape was gently pressed over the fungal colony and it was sticked into the surface of glass slide. The glass slide was stained with methylene blue and examined under light microscope. The fungus was identified as *Aspergillus niger* on the basis of colour, spreading pattern and sporangia (Fig. 4). Based on the history, clinical examination and fungal culture the case was diagnosed as cutaneous aspergillosis and therapeutic measures were undertaken.

Treatment and Discussion:

Calf was administered with ketoconazole @ 10mg/kg (PO) for 4 weeks along with topical application of Whitfield ointment and liver supplements (Liv-52 @10ml BID PO). Significant clinical improvement was noticed after a week of therapy. Complete absence of itching, healing of lesions with normal hair growth were observed after 4 weeks of therapy (Fig. 5).

Fig. 5 Normal hair growth and healing of lesions post therapy

Superficial and cutaneous aspergillosis is a rare fungal disease that is restricted to the outer layers of the skin, infrequently invading the deeper tissue and viscera, particularly in immunocompromised patients (Merad *et al.,* 2021). The occurrence of cutaneous aspergillosis in the present case could be due to easy entry of fungus into the skin and reduced immunity (Chotirmall *et al.,* 2013). Clinical signs observed in the present case were in concurrence with Soundararajan *et al.* (2019). *Aspergillus sp.* colonies were usually fast growing, white, yellow, yellow brown, brown to black or green gradations, mostly consisting of erect conidiophores. Conidia are single-celled, smooth or rough-walled, hyaline or pigmented, produced in long dry chains that may diverge or coalesce in compact columns (Kidd *et al.,* 2016; Saleemi *et al.,* 2017). Treatment with itraconazole in the present case was in consistent with Merad *et al.* (2021).

Summary:

Primary cutaneous aspergillosis in an uncommon skin disease in calves with non-specific lesions like macules, papules, nodules, plaques, blood blisters and lichenifications. Treatment with ketoconazole, Whitfield ointment and liver supplements resulted in successful recovery of the animal.

References:

Beernaert LA, Pasmans F, Van Waeyenberghe L, Haesebrouck F and Martel A, 2010. Aspergillus infections in birds: a review, Avian Pathol., 39(5): 325-331.

Carmo, PMSD, Portela, RA, Oliveira-Filho, JCD, Dantas, AFM, Simoes, SVD, Garino, F Jr and Riet-Correa, F, 2014. Nasal and cutaneous aspergillosis in a goat, J Comp Pathol., 150: 4-7.

Chotirmall, S.H., Al-Alawi, M., Mirkovic, B., Lavelle, G., Logan, P.M., Greene, C.M. and McElvaney, N.G. 2013. Aspergillus-associated airway disease, inflammation, and the innate immune response. Biomed Research International 2013:723129, doi: 10.1155/2013/723129, accessed on 02.01.2019.

Merad, Y.; Derrar, H.; Belmokhtar, Z.; Belkacemi, M. Aspergillus Genus and Its Various HumanSuperficial and Cutaneous Features. Pathogens 2021, 10, 643. https://doi.org/10.3390/ pathogens10060643.

Seyedmousavi S, Guillot J, Arne P,Hoog GSD, Mouton JW, Melchers WJG, Verweij PE, 2015. Aspergillus and aspergilloses in wild and domestic animals: a global health concern with parallels to human disease, Med Mycol., 53(8): 765-797.

Soundararajan, C, Nagarajan, K, Subapriya, S and Prakash, MA, 2019. Cutaneous aspergillosis in goats and its therapeutic management by tamarind (*Tamarindus indica*) seed outer coat powder, Indian J Smal Rumi., 25(2): 251-254.

Citation: K. Sasikala, S. Sivaraman, D. Sumathi, R. Ravi and G. Senthilkumar. (2025). An Unusual Case of Primary Cutaneous Aspergillosis in A Kangayam Calf - A Case Report. In Bio vet innovator magazine (Vol. 2, Issue 4, pp. 34-37). Bio vet innovator magazine. https://doi.org/10.5281/zenodo.15333018