

## A Rare Case of Orthokeratotic Hyperkeratosis in a Kid Induced by Malassezial Dermatitis

Sindhu,O.K<sup>1\*</sup>, Vinu David,P<sup>2</sup>, Hamza Palekkodan<sup>3</sup>, Mary Grace,M<sup>4</sup>, Neeraja,E<sup>4</sup>, Athira P Nair<sup>5</sup> and Ajith Jacob George<sup>6</sup>

Department of Veterinary Clinical Medicine, Ethics and Jurisprudence, College of Veterinary and Animal Sciences, Pookode.

(Received : November, 2023 220/23 Accepted : February, 2024)

### Abstract

A two months old crossbred kid was presented with a complaint of alopecia and severe pruritus over the dorsal aspect of the body since one month. Ulcerative lesions were noted on the dorsal aspect of the neck and extensive moist pruritic lesions were observed on lateral thigh and base of the tail. Cytological evaluation of skin impression revealed budding yeast cells suggestive of *Malassezia* spp. along with bacterial (cocci) organisms. On histopathological examination, numerous budding yeasts were visible within the stratum corneal layer along with presence of orthokeratotic hyperkeratosis with acanthosis suggestive of chronic skin irritation. The kid responded well to oral ketoconazole along with supportives like antihistaminics, vitamin and mineral supplements.

**Key words:** Malassezial dermatitis, orthokeratotic hyperkeratosis

*Malassezia* spp. are lipophilic organisms seen as saprophytes of mammalian and avian skin. Due to overgrowth of normal flora resulting from disturbances of the normal physical, chemical or immunological mechanisms,

malassezia organisms cause infection mainly in immunocompromised young ones (Theelen *et al.*,2018). Occurrence of skin diseases associated with malassezia organisms is very rare in goats. Orthokeratotic hyperkeratosis with acanthosis is the main histopathological lesion associated with Malassezia dermatitis.

### Case History and Observations

A two month old crossbred kid was presented to the Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Pookode with a complaint of alopecia and severe pruritus over the dorsal aspect of neck, lateral thigh and base of the tail since one month (Fig 1). General clinical examination revealed normal rectal temperature and pale pink visible mucous membrane. Upon dermatological examination, ulcerative lesions were noted on the dorsal aspect of the neck (Fig.2) and extensive moist pruritic lesions over the left and right lateral thigh and base of the tail (Fig.3).

Cytological evaluation of skin impression was positive for budding yeast cells suggestive of *Malassezia* spp. and bacterial (cocci) organisms (Fig.4). On histopathological examination of skin biopsies stained by haematoxylin and eosin, revealed numerous budding yeasts suggestive of *Malassezia* spp. within the stratum corneum (Fig.5) along with orthokeratotic hyperkeratosis and acanthosis (Fig.6) suggestive of chronic skin irritation.

### Results and Discussion

The kid was given Tab.Ketoconazole@10mg/kg body weight for two months, Tab.Hydroxyzine

\*Corresponding author : Email : [sindhuok@kvasu.ac.in](mailto:sindhuok@kvasu.ac.in)

<sup>2</sup>Associate Professor, Dept of Veterinary Clinical Medicine, Ethics and Jurisprudence, College of Veterinary and Animal Sciences, Pookode-673576, Kerala

<sup>3</sup>Assistant Professor, Dept of Veterinary Pathology, College of Veterinary and Animal Sciences, Pookode-673576, Kerala

<sup>4</sup>PG Scholar, Dept of Veterinary Clinical Medicine, Ethics and Jurisprudence, College of Veterinary and Animal Sciences, Pookode-673576, Kerala

<sup>5</sup>Dept of Veterinary Pathology, College of Veterinary and Animal Sciences, Pookode-673576, Kerala

<sup>6</sup>Professor, Dept of Veterinary Pathology, College of Veterinary and Animal Sciences, Pookode-673576, Kerala

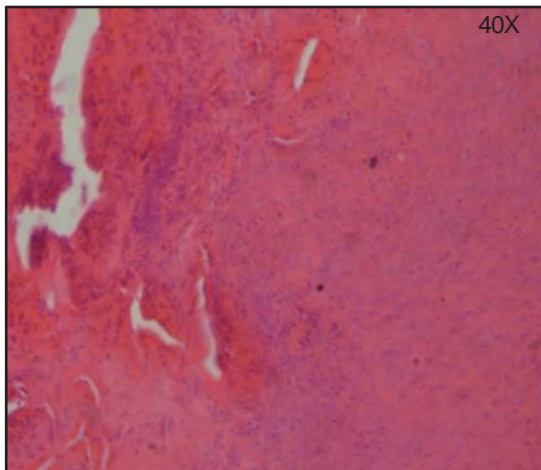
A Rare Case of Orthokeratotic Hyperkeratosis...



**Fig 1:** Kid with skin lesions



**Fig 3:** Alopecia and ulcerative lesion over the dorsal neck region



**Fig 5 :** *Malassezia spp* within the stratum corneal layer

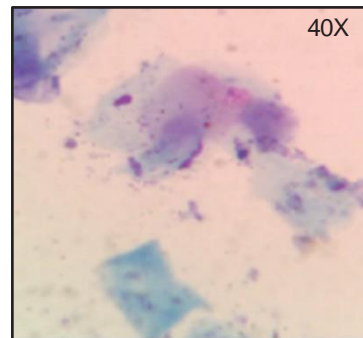


**Fig 7:** After therapy

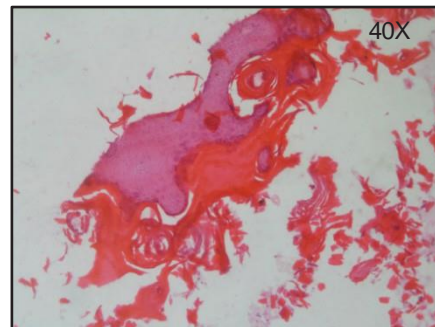
hydrochloride @ 0.5mg/kg body weight for one month and vitamin, mineral supplements orally. Tab.Cephalexin@ 10mg/kg body weight



**Fig 2:** Ulcerative crusty moist erythematous lesion with alopecia over the lateral thigh



**Fig 4:** Budding Yeast cells



**Fig 6 :** Orthokeratotic hyperkeratosis with acanthosis

was given orally for two weeks. The animal started showing clinical improvement from the second week of therapy onwards and regrowth of the hair over the dorsal neck and lateral thigh regions were noted. The kid showed complete recovery after two months of therapy withazole drugs and other supportives.

*Malassezia dermatitis* is mainly reported in dogs and cats. Documented reports were

very few in goats. In our case, only localised ulcerative dermatitis was noted on dorsal neck, lateral thigh and tail base, but generalised skin lesions were reported in other case studies (Eguchi Coe *et al.*, 2011; Pin, 2004). Uzal *et al.* (2007) reported diffuse orthokeratotic hyperkeratosis, epidermal hyperplasia and perivascular dermatitis as histological findings in goats with malasseziosis. The diagnosis was made by the presence of numerous budding yeast organisms in the stratum corneal layer which was consistent with the findings of Pin (*loc.cit*), Uzal *et al.* (*loc.cit*), Eguchi Coe *et al.* (*loc.cit*) and Hobi *et al.* (2022). Topical or systemic azole therapy, often with miconazole—chlorhexidine shampoo or oral itraconazole/ ketoconazole will give good response (Guillot and Bond, 2020 and Fatima and Amina, 2022). This study reports a case of malasseziosis in a crossbred kid and its complete recovery after two months of therapy with azole drugs (Fig:7).

### Conclusion

A rare case of malasseziosis in a goat with unusual distribution patterns on the dorsal aspect of the neck, lateral thigh and base of the tail with ulcerative pruritic lesions having orthokeratotic hyperkeratosis with acanthosis of the skin layer were reported. The kid responded well to oral ketaconazole therapy along with vitamin and mineral supplements.

### References

- Bond, R. (2010). Superficial veterinary mycoses, *Clin. Dermatol.* **28** : 226-236.
- Eguchi Coe, Y., Valentine, B.A., Gorman, E. and Villarroel, A. (2011). Putative *Malassezia* dermatitis in six goats. *Vet.Dermatol.* **22** : 497-501.
- Fatima, D. and Amina, M. (2022). Treatment Approaches of Ovine Fungal Diseases using Antibiotics and Ethnoveterinary Medicinal Plants. *Pak. J. Zool.* **54** : 1-9.
- Guillot, J. and Bond, R. (2020). *Malassezia* yeasts in veterinary dermatology: an updated overview. *Front. Cell Infect. Microbiol.* **10** : 79.
- Hobi, S., Cafarchia, C., Romano, V. and Barrs, V.R. (2022). *Malassezia*: Zoonotic implications, parallels and differences in colonization and disease in humans and animals. *J. Fungi.* **8** : 708.
- Pin, D. (2004). Seborrhoeic dermatitis in a goat due to *Malassezia pachydermatis*. *Vet. Dermatol.* **15** : 53-56.
- Theelen, B., Cafarchia, C., Gaitanis, G., Bassukas, I.D., Boekhout, T. and Dawson Jr, T.L. (2018). *Malassezia* ecology, pathophysiology, and treatment. *Med.Mycol.* **56** : S10-S25.
- Uzal, F.A., Deborah, P., Eigenheer, A.L. and R. L. Walker. (2007). *Malassezia slooffiae*-associated dermatitis in a goat. *Vet.Dermatol.* **18** : 348-352.