Indian J. Vet. Med. Vol. 45, No. 2, 2025 pp. 41-43

Clinical Articles

Successful Management of *Pemphigus vulgaris* in dogs - A Case Report

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Abstract

Two dogs were presented to Small Animal Clinics Out-Patient Dermatology Unit at Madras Veterinary College Teaching Hospital (MVCTH) with oral ulcers and erosions on gums and palate. The oral lesions and erosions were positive for direct Nikolsky's sign and the samples from the lesions were negative for bacterial and fungal infections. Direct impression smears from the ulcers and erosions of the two animals were subjected to cytology which showed the presence of acantholytic cells surrounded by neutrophils. Based on the cytology evaluation and distribution of lesion it was confirmed as *Pemphigus vulgaris* (PV). Both the animals were treated with prednisolone at 0.5 mg/kg body weight for a month along with supplements viz omega fatty acids and vitamins. Improvement was observed in two cases but one dog showed recurrence of lesions after 2 weeks of discontinuation of prednisolone.

Keywords: Pemphigus vulgaris, Cytology, Prednisolone

Introduction

Pemphigus group is one of the most common blistering autoimmune skin diseases of dogs. Pemphigus group is classified into *Pemphigus vulgaris* (deep vesicle) and *Pemphigus foliaceus* (Shallow vesicle) based on the depth of lesion that form with in the skin (Rory, 2008). Molla *et al*. (2016) reported that Pemphigus was characterized by the production of autoantibodies that disrupted intercellular adhesion within the epidermis, pemphigus that led to acantholysis and blister formation. Successful management of pemphigus in dogs is presented in this article.

Case History and Observations

Two dogs (a six-year-old non-descriptive dog and a five-year-old Spitz) were presented to the Small Animal Clinics Out-Patient Dermatology Unit at Madras Veterinary College Teaching Hospital with a history of oral ulcerations vesicles and erosive lesions on the gums and palate. Gentle pressure applied with the thumb over the lesions resulted in bleeding from the erosions, indicating epidermal fragility and a positive direct Nikolsky's sign. Clinical signs such as anorexia, dysphagia and drooling of saliva were recorded. Both the dogs had vesicles, erosions and ulcers within the oral cavity and cytological findings revealed clusters of acantholytic cells surrounded by neutrophils. These cases were negative for pyoderma and dermatophytosis. Based on the nature, depth and distribution of the lesions (Fig.1 and 4) and cytological evaluation (Fig.5) the diagnosis was made as *Pemphigus vulgaris.*

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https://doi.org/10.56093/ijvm.v45i2.171696

Fig.1. Severe ulcerative lesion involving the upper lip and gingiva, with marked tissue erosion

Fig.2. After recovery

Fig.3. Erosion and ulcers over gums

Fig.4. After recovery but recurrence is noticed after treatment discontinued

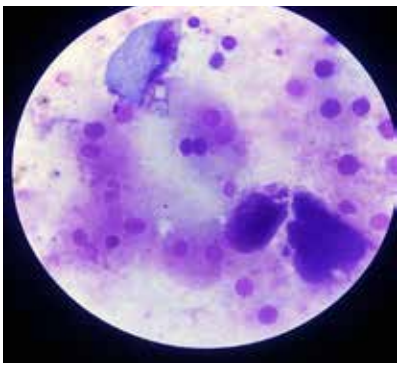

Fig.5 Clusters of acantholytic cells

Treatment and Discussion

The animals were given prednisolone at a dosage of 0.5 mg/kg body weight orally for a month along with omega fatty acids and vitamin supplements. During the treatment period, the values of complete blood counts and serum biochemistry were normal. Clinical improvement was noted in two cases after a month (Fig.2 and 4) however, one dog experienced lesion recurrence following the discontinuation of prednisolone after two weeks, while the other remained relapse-free.

Olivry (2004) reported that Pemphigus vulgaris was a rare but clinically important autoimmune blistering disease in dogs, predominantly affecting mucosal surfaces. Foster and Foil (2003) mentioned that intraepidermal blistering, most commonly observed in the oral cavity and mucocutaneous junctions in this disease. The location of the ulcers in the present study also agreed with Foster and Foil (2003). Molla *et al*. (2016) stated that all Pemphigus variants share this immunopathogenic mechanism but they differ in antigen specificity and the level of epidermal cleavage: *Pemphigus foliaceus* affects the superficial epidermis,

while pemphigus vulgaris involves deeper layers. Our study also concurred with the findings of Molla *et al*. (2016). Further, identification of acantholytic keratinocytes, often surrounded by neutrophils by cytological evaluation confirmed that the cause is *Pemphigus vulgaris.* Gregoriou *et al.* (2015) found that corticosteroids remain the gold standard treatment for Pemphigus vulgaris. Hence the present study also used prednisolone as the first line treatment for PV. Almela and Chan (2021) mentioned that the prognosis for dogs with Pemphigus is fair. however, recurrence is common.

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Received : 11.09.2025 **Accepted : 25.11.2025** **Published : 15.12.2025**