

PEMPHIGUS-LIKE IMMUNE-MEDIATED DERMATOSIS IN A KOREAN NATIVE BLACK-BONE FOWL

JAE-IK HAN,¹ IN-PIL MO,² AND KI-JEONG NA^{1*}

¹Laboratory of Veterinary Laboratory Medicine, College of Veterinary Medicine, Chungbuk National University, Cheongju 361-763, Republic of Korea

²Laboratory of Avian Disease Medicine, College of Veterinary Medicine, Chungbuk National University, Cheongju 361-763, Republic of Korea

Study Results

A 3-year-old, female Korean native black-bone fowl weighing 1 kg presented with refractory dermatosis characterized by hyperkeratosis and alopecia on the head, neck, and scapular region. Antibiotic therapy prior to referral had not reduced the severity of lesions (Figures 1–3). The administration of prednisolone eliminated the lesions and the feathers grew back partially. This report describes a case of pemphigus-like immune-mediated dermatosis in a Korean native black-bone fowl.

Significance of Study Results

All forms of pemphigus in domestic animals require treatment with immunosuppressive or immunomodulatory drugs. The good response of our case to oral prednisolone treatment and the absence of an adverse reaction suggest that the dysregulation of an immune mechanism induced the pemphigus-like dermatosis in the fowl and that this disease can be controlled by oral glucocorticoids. Avian diagnosticians should consider immune-mediated dermatosis when they see cases with hyperkeratosis and alopecia.

Additional Information

The pemphigus complex is a group of vesiculo-bullous disorders that is characterized by immunoglobulin deposition that results in acantholysis in the epidermis. Pemphigus vulgaris was first reported in dogs about 30 years ago as an autoimmune skin disorder of domestic animals. Since then, homologous diseases of human pemphigus complex have been reported in several animals.

Clinical presentation of these disorders may vary from bullous to ulcerative to exfoliative depending on the variants. Since 1994, panepidermal pustular pemphigus (PPP), which was previously diagnosed as pemphigus vegetans and pemphigus erythematosus (PE), has been added as another variant. Consequently, pemphigus is currently divided into 5 variants (vulgaris, vegetans, foliaceus, erythematosus, PPP) based on the clinical signs, histopathology, and immunological characteristics. Unlike pemphigoid, which is induced by autoantibodies against dermo-epidermal basement membrane antigens, the pemphigus complex is characterized by autoantibodies against the desmosomal protein that maintains cell to cell adhesion in the epidermis. In 1978, the pemphigus and pemphigoid autoantigens were detected in avian skin but human pemphigus- and pemphigoid-like diseases have not been reported in birds previously.

*Corresponding author. Mailing address: Laboratory of Veterinary Laboratory Medicine, Department of Veterinary Medicine, College of Veterinary Medicine, Chungbuk National University, Cheongju, Chungbuk 361-763, Republic of Korea. E-mail: sigol@cbnu.ac.kr