Apparent idiopathic interface disease in a Boer billy goat

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ABSTRACT

An apparently idiopathic interface disease in a 2-year-old Boer billy goat is described. Clinical features of the disease were the presence of a pruritic multiple focally disseminated dermatitis with flat-topped, angular, scaly plaques and papules with corrugated surfaces in the skin of virtually the entire body. The aetiology of the disorder in the described case is unknown.

Key words: goat, interface disease.

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Fig. 1: **Multiple prominent papules and plaques on the face and ears.**

Lichenoid dermatitis (or interface diseases) is characterised by flat-topped papules, which are angular or polygonal with thin, shiny scales[1,2]. It may be pruritic or non-pruritic[6]. Lichenoid tissue reactions are characterised by epidermal basal cell damage that may take the form of cell death or vacuolar change (hydropic degeneration). Cell death usually involves single scattered basal cells that are shrunken and have an eosinophilic cytoplasm, often containing one or more pyknotic nuclear fragments (apoptotic bodies)[4,7]. The cause and pathogenesis of lichenoid dermatoses is unclear; their clinical and histopathological features suggest an immune-mediated pathomechanism[3].

In this communication we describe hitherto unrecorded clinical and pathological findings of an apparently idiopathic interface disease in a 2-year-old Boer billy goat.

The billy goat had a history of multifocal skin lesions (10–20 mm in diameter) consisting of papules and plaques with raised, thickened, roughened surfaces with scale formation of 3-month duration. The lesions were on the back, abdomen, inguinal area, perineum, head, tail, scrotum, the inner aspects of both pinnae and the limbs (Figs 1, 2). These papular lesions were particularly prominent and coalesced to form plaques on the head, face and ears (Fig. 2). There was fissuring of the lesions over the ears, lip margins and tail. The diagnosis was a generalised pruritic papulosquamous-crustous dermatitis.

The animal had normal rectal temperature, pulse and respiratory rates. Additional physical findings included prefemoral, prescapular and submandibular lymphadenopathy. The animal had no evidence of systemic illness. Skin scrapings and hairs were examined microscopically for the presence of ectoparasites and dermatophytes, with negative results. A dermatophyte culture was taken and was also negative. A haemogram revealed neutrophilic leukocytosis and slight eosinophilia (0.9×10^3, normal range 0.05 to 0.65×10^3). No immunofluorescence test was performed. Skin biopsies for histopathological examination were taken from lesions in the skin of the ears, lip, inguinal area, abdomen and back. They revealed the presence of an orthokeratotic hyperkeratosis (Fig. 3). Irregular and papilated epidermal hyperplasia and multifocal epidermal microabscesses were also present (Fig. 4). Vacuolar alteration of basal cells and the basement membrane was rarely observed. Shrunken basal cells with eosinophilic cytoplasm and pyknotic nuclei were noticed in the basal layer of the epidermis. In some areas, perivascular accumulations of mononuclear inflammatory cells were

Fig. 2: **Multifocal skin lesions consisting of papules and plaques with raised, thickened, roughened surface with scale formation.**

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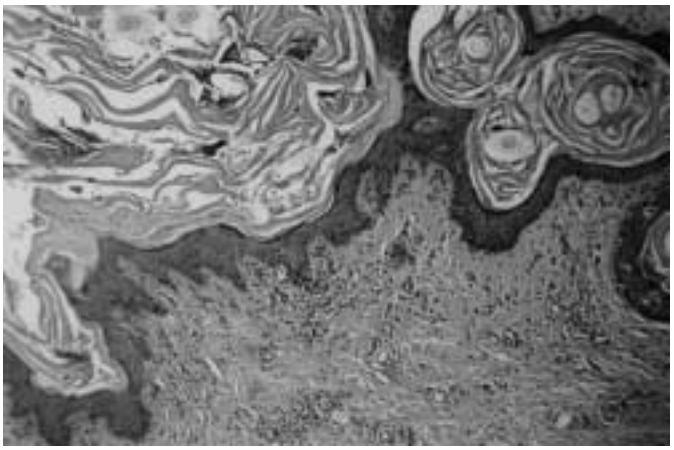

Fig. 3: **Orthokeratotic hyperkeratosis, papilated epidermal hyperplasia and mild perivascular multifocal infiltration** (H&E, ×10).

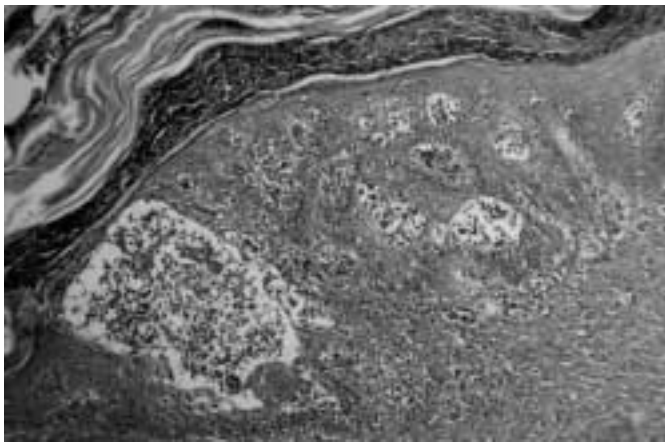

Fig. 4: **Epidermal microabscess** (H&E, ×20).

present in the superficial dermis. Occasional apoptotic epidermal cells and macrophages containing melanocytic granules were also detected. At the owner's request euthanasia was performed and the animal was necropsied but, apart from the skin lesions, no pathological or histological changes were found. A presumptive diagnosis of interface disease was made. This was based on history, clinical presentation and characteristic micro-and macroscopic pathology that revealed lichenoid features, and on the results of nonspecific laboratory tests. Differential diagnoses included goat pox, orf, dermatophytosis and various granulomatous and neoplastic conditions (*e.g.* papillomatosis).

This is the first report of an apparently idiopathic interface disease in the goat. The clinical and pathological features were characterised by a focal disseminate pruritic dermatitis manifesting as flat-topped, angular, scaly plaques and papules with corrugated surfaces in the skin of virtually the entire body. Similar skin lesions have also been reported in dogs and cats[2,5,6]. In dogs, cats and humans, interface disease or lichenoid dermatitis has a self-limiting course in which spontaneous resolution occurs within 6 months to 2 years[2,5,6]. Eosinophilia, such as was seen in the present case, has been reported in a cat suffering from interface disease[2], but eosinophilia is not commonly reported in association with canine interface disease. The aetiology of the disorder in the described case is unknown. The present information may be helpful to goat practioners as a differential diagnosis of various skin diseases.

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