

Comparative efficacy and safety of ilunocitinib and oclacitinib for the control of pruritus and associated skin lesions in dogs with atopic dermatitis

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Abstract

Background: Janus kinase inhibitors (JAKi) have been shown to reduce pruritus and improve associated inflammatory skin lesions in canine atopic dermatitis (cAD).

Objective: To evaluate the efficacy and safety of ilunocitinib, in comparison to oclacitinib, for the control of cAD in a randomised, blinded trial.

Animals: Three hundred-and-thirty-eight dogs with cAD.

Materials and Methods: Dogs were randomised to receive oclacitinib (0.4–0.8 mg/kg twice daily for 14 days; then once daily) or ilunocitinib (0.6–0.8 mg/kg once daily), for up to 112 days. Owners assessed pruritus using an enhanced Visual Analog Scale (PVAS). Investigators assessed skin lesions using the Canine Atopic Dermatitis Extent and Severity Index, 4th interaction (CADESI-04).

Results: Reduction in pruritus and CADESI-04 scores was similar for both treatment groups from Day (D)0–D14. PVAS scores increased between D14 and D28 for oclacitinib and decreased for ilunocitinib. On D28 to D112, mean PVAS and CADESI-04 scores were significantly lower for ilunocitinib compared to oclacitinib ($p < 0.003$ and $p < 0.023$, respectively). On D28 to D112, a greater number of ilunocitinib-treated dogs achieved clinical remission of pruritus (i.e. PVAS score < 2). Subjective assessment of overall response was significantly better for ilunocitinib on D28 to D112 ($p < 0.002$). Both drugs demonstrated similar safety throughout the study.

Conclusions and Clinical Relevance: Ilunocitinib rapidly and safely controlled signs of cAD. Ilunocitinib demonstrated significantly better control of pruritus and skin lesions compared to oclacitinib, with more dogs achieving clinical remission of pruritus.

KEYWORDS

canine atopic dermatitis, ilunocitinib, JAK inhibitor, oclacitinib, pruritus, skin lesions

INTRODUCTION

Canine atopic dermatitis (cAD) is a common, chronic skin disease in dogs characterised by skin inflammation and pruritus. Its complex pathogenesis involves inflammatory and allergic immune responses mediated by various cytokines, many of which signal through the Janus kinase-signal transducer and activator of transcription (JAK-STAT) pathway.^{1–5} Janus kinase inhibitors (JAKi)

have been demonstrated to be safe and effective in the management of pruritus associated with cAD. In 2013, the first veterinary JAKi, oclacitinib (Apoquel) received marketing authorisation in Europe for the control of clinical manifestations of cAD. The dose frequency must be reduced from twice daily to once daily at Day (D)14 of treatment, which can lead to an increase in pruritus.^{6–10} Although oclacitinib has substantially changed the management of cAD, up to one-third of dogs do not

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