Fluoxetine (SSRI) treatment of canine atopic dermatitis: a randomized, double-blind, placebo-controlled, crossover trial

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Abstract

This study investigated effects of a fluoxetine (selective serotonin reuptake inhibitors; SSRI, 1 mg/kg) on pruritus in canine atopic dermatitis (CAD). After 4-weeks base-line observation, 8 dogs with CAD entered a 2-months randomized, double-blind, placebo-controlled, crossover trial comparing fluoxetine with placebo. Clinical efficacy was evaluated using a Canine Atopic Dermatitis Extent and Severity Index (CADESI-03) and Pruritus Visual Analog Scale (PVAS). Six dogs completed the study [two out of eight dogs (both of them were Shiba Inu) dropped out from the study due to a depression]. CADESI-03 and PVAS between fluoxetine and placebo showed no significant difference statistically (P > 0.05 and P > 0.05 respectively). Fluoxetine showed no efficacy on pruritus in CAD. Further researches are needed for the treatment on pruritus of CAD.

Key words: canine atopic dermatitis, fluoxetine, SSRI, pruritus

Introduction

It is now accepted that canine atopic dermatitis (CAD), similar to the human counterpart, is a multi-faceted disease determined by a combination of genetic (filaggrin related gene) and environmental factors affecting both the immunologic response as well as the skin barrier function (Marsella et al. 2012). A recent study focused on cytokine called IL-31 which is related to pruritus (Gonzales et al. 2013). Moreover injection of canine IL-31 into laboratory beagle dogs caused transit episodes of pruritic behavior regardless of the route of administration. So pruritus of nerve might be some factors in CAD (Marsella et al. 2012). In the brain, reduction of itch perception and modulation of emotions may possibly be achieved through drugs acting on the anterior cingulate cortex (Tey and Yosipovitch 2011). Fluoxetine (selective serotonin reuptake inhibitor: SSRI) is widely used in human medical field as psychoactive drug. Previous study has reported an efficacy of fluoxetine on canine acral lick dermatitis (Rapoport et al. 1992, Wynchank and Berk 1998). In human study, SSRI showed high antipruritic potency in patient with chronic pruritus. Thus, the aim of this study is clinical evaluation of fluoxetine for CAD related pruritus.