Trial of Faecal Microbial Transplantation for the Prevention of Canine Atopic Dermatitis

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Abstract : The skin-gut axis defines the relationship between the intestinal microbiota and the development of pathological skin diseases. Low diversity within the gut can predispose to the development of allergic skin conditions, and a greater diversity of the gastrointestinal microflora has been associated with a reduction of skin flares in people with atopic dermatitis. Manipulation of the gut microflora has been used as a treatment option for several conditions in people, but there is limited data available on the use of faecal transplantation as a preventative measure in either people or dogs. Six, 4-month-old pups from a litter of ten were presented for diarrhea and/or signs of skin disease (chronic scratching, otitis externa). Of these pups, two were given probiotics with a resultant resolution of diarrhea. The other four pups were given faecal transplantation, either as a sole treatment or in combination with other treatments. Follow-up on the litter of ten pups was performed at 18 months of age. At this stage, the four pups that had received faecal transplantation had resolved all clinical signs and had no recurrence of either skin or gastrointestinal symptoms. Of the remaining six pups from the litter, all had developed at least one episode of Malassezia otitis externa within the period of 5 months to 18 months of age. Two pups had developed two Malassezia otitis infections, and one had developed three Malassezia otitis infections during this period. Favrot's criteria for the diagnosis of canine atopic dermatitis include chronic or recurrent Malassezia infections by the age of three years. Early results from this litter predict a reduction in the development of canine atopic disease in dogs given faecal microbial transplantation. Follow-up studies at three years of age and within a larger population of dogs can enhance understanding of the impact of early faecal transplantation in the prevention of canine atopic dermatitis.

Keywords : canine atopic dermatitis, faecal microbial transplant, skin-gut axis, otitis

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