

The anti-inflammatory activity of Chlorella in beagles with skin disorders

Findings of this study were presented at the Annual Meeting of the Japan Society for Bioscience, Biotechnology, and Agrochemistry 2008

[Study objectives]

Inflammation occurs primarily as a biological defense to protect the body from microorganisms. Inflammatory reactions that have become chronic, however, are known to be involved in rheumatic arthritis and other diseases. We have already reported on the finding of our *in vitro* evaluation test, that Chlorella inhibits the activity of cyclooxygenase-2 and phospholipase A₂, which are enzymes involved in the induction of inflammation ([Search Chlorella's pharmacological activity](#)). This time, to confirm the effects of Chlorella *in vivo*, we conducted a study using beagles that had spontaneously developed chronic dermatitis.

[Method of experiments]

Beagles with chronic dermatitis were divided into two groups (5 dogs per group), and were given ordinary feed or the one with Chlorella powder (0.1 g/kg of weight/day of Chlorella added) for 4 weeks. Improvement of dermatitis was evaluated by a veterinarian on a daily basis, and by a blood test performed at the end of the study.

[Results]

After four-week intake of feed, 6% of the dogs in the Chlorella Group exhibited disappearance of inflammation in the auricle and other affected areas, while 75% exhibited "improvement of dermatitis", including those of which condition was judged to be "markedly improved" or "improved". On the other hand, none of the dogs in the Control Group exhibited disappearance of inflammation; 31% exhibited "improvement of dermatitis" but 38% exhibited aggravation of it (Fig. 1). The Chlorella Group also exhibited a tendency for inflammation score, an indicator of the degree of inflammation, to decrease (Fig. 2). In the blood test, moreover, they exhibited a significant decrease in neutrophil count, which increases during inflammation.

The results of this study suggest that Chlorella is effective in improving inflammation *in vivo* as well as *in vitro*.

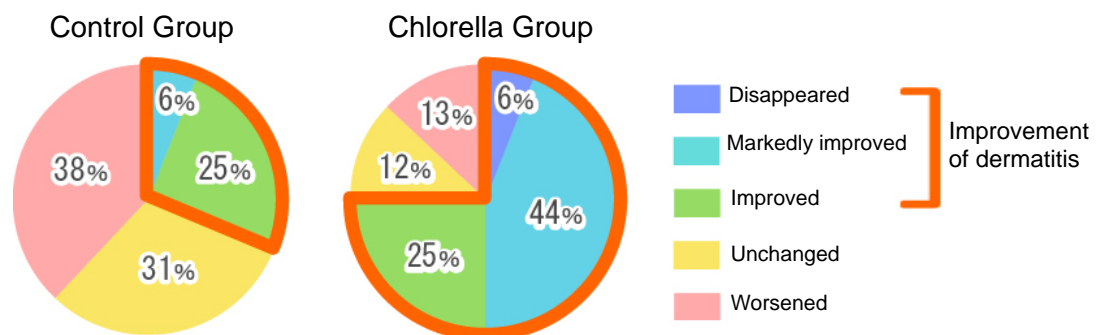


Fig. 1 Status of improvement of inflammatory disorders of the skin in the auricle and other sites

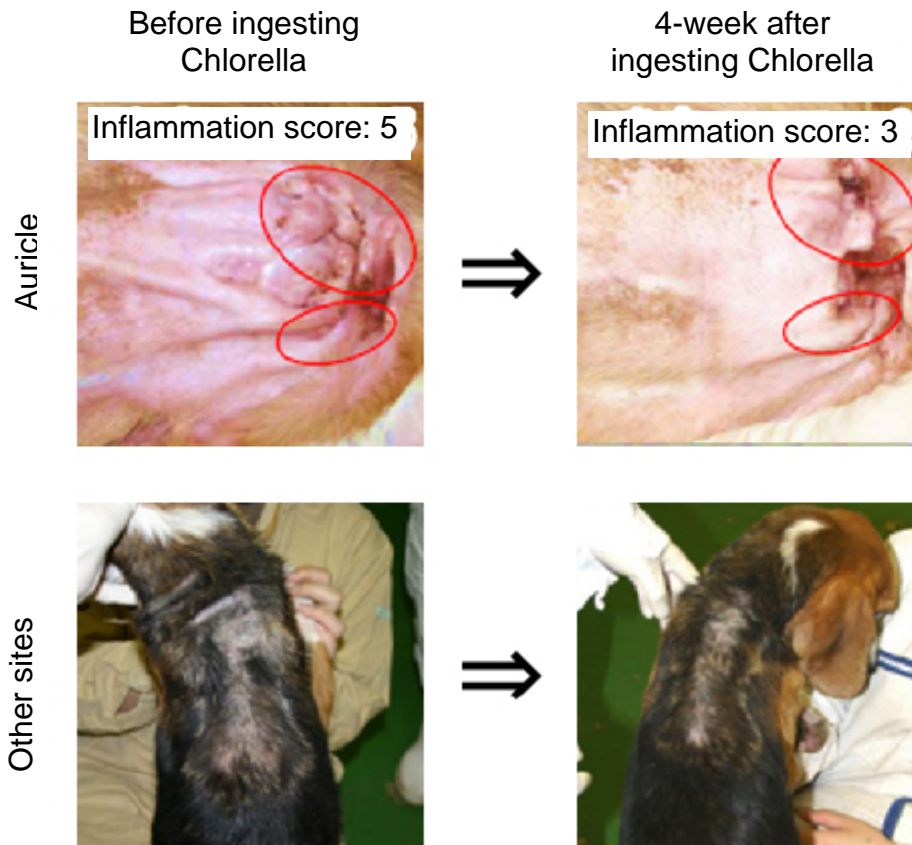


Fig. 2 Improvement in the Chlorella Group of inflammatory disorders of the skin in the auricle and other sites

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