

## Relationship Between Halitosis and Parameters Related Periodontal Disease in the Dog

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**Introduction:** The purpose of this study was to clarify the relationship between halitosis and periodontal diseases and to examine the effects of chlorhexidine gluconate and dextranase on halitosis and clinical parameters related periodontal disease in dogs.

**Materials and methods:** The first study was performed with dogs referred to Veterinary Medical Teaching Hospital of Chonnam National University. After general anesthesia, we measured plaque index (PI), calculus index (CI), gingival index (GI) and halitosis.

The second study was conducted with healthy 15 dogs. Following a professional teeth cleaning procedure, dogs received oral hygiene procedure for a week and were divided into 3 groups; the control group receiving a placebo (0.02 sodium phosphate buffer, pH7.0), the chlorhexidine group receiving 0.12% chlorhexidine gluconate, and the dextranase group receiving dextranase. Clinical parameters evaluated weekly included PI, CI, GI, and halitosis.

**Result:** In the first study, there was a highly significant correlation between halitosis and periodontal disease parameters. In the second study, the dogs in the dextranase and chlorhexidine groups had significantly less plaque and calculus than dogs in the buffer group. The dogs in the dextranase group had significantly less gingivitis than dogs in the buffer and chlorhexidine groups. There was no significant difference between the dextranase group and the chlorhexidine group.

On halitosis, measurement using organoleptic method showed the lowest score in the chlorhexidine group at 14 days, however all groups recorded the similar scores at 21 days.

**Clinical relevance:** The efficacy of dextranase in controlling periodontal diseases was similar to that of chlorhexidine gluconate. However dextranase was less effective in controlling halitosis than chlorhexidine gluconate. The prolonged use of chlorhexidine gluconate cause the adverse effects such as abnormal taste sensation and tooth staining, thus it is recommended to use the enzymatic mouth rinse like dextranase for the long-term use.

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