Copaiba oil (*Copaifera langsdorffii*): an alternative in the prevention of periodontal disease in dogs

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**Introduction:** Periodontal disease affects approximately 85% of dogs older than four years age and is caused by the buildup of plaque on the tooth surface and the body's reaction to this. The Copaiba oil has been considered as a potential antimicrobial agent in previous studies, so the aim of this study was to evaluate the bioactivity and the minimum inhibitory concentration (MIC) of an oil from *Copaifera langsdorffii* on bacteria isolated from dental plaque of dogs.

**Experimental assay:** The test was conducted with 32 isolates obtained from dogs of the genera *Actinomyces* (2), *Aerococcus* (1), *Bacillus* (2), *Enterococcus* (6), *Haemophilus* (1) *Lactobacillus* (3), *Lactococcus* (2), *Leuconostoc* (3), *Staphylococcus* (6), *Streptococcus* (5) and a Bisgaard taxon 16 isolate (1), adapting the agar macrodilution technique in microtiter plates with the following substances: copaiba oil ranging between 100mg/mL and 6.25mg/ml; chlorhexidine digluconate (1.25mg/ml) as positive control, and negative control containing the solvent of the oil. For identification of bacterial growth was used resazurin (0.01%) as colorimetric indicator.

**Results/Discussion:** All isolates were susceptible to chlorhexidine and were not inhibited by the negative control. To copaiba oil 75% of the isolates were sensitive with MIC of 100mg/mL for 13% of the isolates, 50mg/mL to 28%, 25mg/ml to 9% and 12.5mg/mL to 25%. All isolates of the genus *Streptococcus* were inhibited by 50mg/mL of copaiba oil, especially 3/5 isolates that did not grow up in a concentration of 12.5 mg/mL. Since this genus is most involved in plaque formation in humans, we suggest that it could also be used in this market.

**Conclusion:** The Copaiba oil was presented as a potential source of antimicrobial compounds against bacteria of dental plaque dogs, and a promise phytotherapeutic for use in combating periodontal disease in dogs.

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