

Feasibility of molecular diagnosis of *Entamoeba gingivalis* in periodontal disease.

Abstract: The aim of this study was to assess the feasibility of a relatively rapid and easy isothermal molecular technique to diagnose *E. gingivalis* infection in patients suffering from periodontal disease, in comparison to the traditional microscopic method. The study included 100 cases, divided into 2 groups; 50 cases suffering from chronic periodontitis and 50 healthy subjects. Composite reference standard and the Receiver Operating Characteristic (ROC) statistical methods verified the results of the diagnostic tools plus the validity of the molecular technique which recorded 100% sensitivity and specificity. Applying isothermal PCR with the hot start technology for dual runs, *Entamoeba gingivalis* was detected in 41 samples, 31 of them were within the diseased periodontal sites and 10 within the healthy sites, still with considerable association with severity of periodontitis plus other risk factors. Isothermal is a simple, yet powerful molecular tool without the threats of mis-priming or inhibition. The technique can be applied in low equipped laboratory, even by quietly skilled personnel. The identification of *E. gingivalis* gives a new objective for treatment of periodontal diseases. Follow-up in these cases may highlight the condition for supplementary understanding of the link between *E. gingivalis* and periodontal diseases.

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