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The efficacy of *Mercurius solubilis*, an homeopathic medication, for the treatment of periodontal disease

María Elena Monterde-Coronel ¹, Juan Asbun-Bojalil ², María Elena Hernández-Campos ², Pedro López-Sánchez ², José Leopoldo Aguilar-Faisal ²

¹ PhD Student in Medical Research. Escuela Superior de Medicina. Instituto Politécnico Nacional. Ciudad de México

² Full Professor Section for Postgraduate Studies and Research, Escuela Superior de Medicina, Instituto Politécnico Nacional. Ciudad de México.

Background

Periodontal disease, or periodontitis, is a public health problem affecting 60-90% of the world adult population. It encompasses a set of inflammatory diseases of multifactorial origin, affecting the periodontium. The destructive stage is characterized by gingival inflammation, clinical attachment loss, and the formation of periodontal pockets between the gums and teeth. Gram-negative bacteria can produce chronic infections by attaching themselves and growing on the surface of periodontal tissue. They respond poorly to antibiotic treatment and cannot be prevented by immunization.^{1,2,3,4,5} Today there is no diagnostic method that can serve as an indicator of active destructive periodontal disease. However, research has provided insights into metabolic elements of the host that are implicated in this disease. Homeopathy utilizes small doses of diverse substances to stimulate the processes of the body to cure and regulate itself.⁷ It is a medical approach based on the Law of Similarity.⁸ If a substance produces a series of signs and symptoms in a healthy individual, it is capable of curing similar symptoms in a patient. For periodontal disease, *Mercurius solubilis* Hg₂ (NO₃)₂ was selected.

Objective

To evaluate the effect of *Mercurius solubilis* 12c administered orally during the treatment of patients with periodontitis, based on quantification of the matrix metalloproteinases (MMPs) in saliva by the immunoblot technique.

Materials and Methods

This was a random, double-blind clinical trial with two modes of treatment: *Mercurius solubilis* and placebo. Inclusion criteria were relapse of periodontal disease and the signing of informed consent. A health questionnaire was applied to each participant, as well as a clinical exploration using standards established by the World Workshop on Clinical Periodontology. Each patient was instructed on the proper techniques for brushing his/her teeth and controlling plaque, as well as the use of hygiene aids.^{13,14} Saliva was obtained (unstimulated) and stored at -70 °C. The quantification of total proteins in saliva was carried out by the Lowry method, and the separation of proteins by electrophoresis (SDS Page), with the specificity of immunochemical recognition of MMPs and control of the charge of β actin. Quantity (Version 4.1, Biorad) software was used for statistical analysis, applying two-way ANOVA (p<0.05).

Results

Patients completely adhered to the combined treatment. No adverse effects have been reported during treatment with *Mercurius solubilis*. The diagnostic probe and posterior reassessment was carried out by a blinded professional. A decrease was found in the depth of the periodontal pockets of both treatment groups. MMP-8 expression decreased in the group treated with *Mercurius solubilis* after 3 months treatment. No differences between groups have been identified in the interim analysis. the work team continues to work with more samples.

Discussion

The treatment of periodontal disease requires the combination of dental, surgical and pharmacological procedures. The selection of beta-lactam antibiotics to treat this condition is based on epidemiological criteria in function of the clinical assessment. These antibiotics are only effective against some Gram-negative bacteria and produce a high proportion of adverse effects. The use of alternative therapy, such as homeopathy, allows the doctor to consider mental and physical aspects of the disease, thus contributing to the total recovery of oral hygiene.

Conclusion

And patients have made note of the benefits of the easy administration and innocuousness. Additionally, this homeopathic therapy for patients with periodontal disease is safe and effective.

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