

Evaluation of The Ointment Effect Based on the *Copaifera L.* for The Treatment of Recurrent Mouth Ulcerations

Kaohana Thaís Da Silva¹, Layra Lhays Biff¹, Fabiana Marques Souza¹, Zilda Cristiani Gazim², Eliana Cristina Fosquiera¹, Daniela De Cássia Faglioni Boleta-Ceranto¹

¹(Department Of Odontology, Universidade Paranaense, Brasil)

²(Postgraduate Program in Biotechnology Applied to Agriculture, Universidade Paranaense, Brasil)

Abstract : *The present study had the objective to evaluate the efficiency of an ointment based on *Copaifera L.* (copaiba) for the treatment of recurrent mouth ulcerations. After selected, the volunteers were divided randomly in two groups, one used the ointment based on copaiba oil and the other acetone triamcinolone ointment, after 3 months the groups were inverted, that way, each one would be their own control. The results showed that the utilization of the copaiba oil was effective on the reduction of pain and on the healing time.*

Keywords : *About five key words in alphabetical order, separated by comma (10 Italic)*

I. Introduction

The recurrent mouth ulcerations (RMU) showed clinically round shape or ovoid, with regular and definite edges, erythematous halos, yellow-greyish surface, with a “fake membrane” white yellowish in its interior¹, painfully and with etiology still unknown.

The indetermination of the etiology justifies the fact that many of the instituted treatments do not always reach the expected success². The small RMU outbreaks are moderated, sporadic, with discreet and moderate symptomatology, curing time estimated between 1 to 2 weeks. It is expected that 20% to 50% of the population will suffer of recurrent mouth ulceration sometime in life³.

Aiming the reduce of the incidence and the curing time of these injuries, many alternative treatments are being utilized, among them the healing ointments, laser therapy, mouthwashing with alkaline solutions and the phytotherapy medicine³.

The copaiba is an example of plant which presents many properties through its oil, such as, healing, anti-inflammatory, antiulcerogenic, antibacterial, analgesic, and others, which can be utilized on the dental office⁴. The copaiba oil showed effectiveness on the fever blister⁵, on the biofilm-forming bacteria⁴, as the substitute of the eugenol⁶, as a post-operative healing of the rat’s dental extractions⁷.

Besides many researches have been developed about the effectiveness of this oil in dentistry, none publication consists of the actuation of the copaiba oil (*Copaifera L.*) in RMU, being this one the objective of this study.

II. Materials And Methods

The protocol of the study was appreciated and approved by the ethics committee by the research in human beings (CAAE: 08225712.4.0000.0109). Volunteers with RMU history, with minimal frequency of four recurrences a year were selected. The injuries were diagnosed based on the historical and clinical characteristics. The individuals were recruited on the academic population of the Universidade Paranaense (UNIPAR) and patients of the Dental Medicine Course of the same University, preferentially individuals which had already been subjected to some kind of treatment with unsatisfactory results.

The inclusion criterions were: reports of recurrent RMU episodes, age between 18 and 65 years old, motivation to participate the study and signature of a clarified and free consent term⁷ demonstrating total agreement on the participation of the study. Volunteers with systemic, endocrine, metabolic or rheumatic, pregnant woman and individuals with hormonal alteration, immunosuppression, or that make use of corticoids three months before the treatment and individuals with allergy to the components which were presented on prosthesis, restorations or fractured teeth were excluded from the research.

The volunteers were divided randomly in two experimental groups that used, respectively, codified medicines as A or B, then they would not know to what treatment they were being subjected, being correspondents respectively to the ointment based on copaiba in orabase and the acetone triamcinolone ointment (Oncilon-A®) in orabase. After the anamnesis the prescriptions of the medicines were performed. The volunteers were analyzed for 3 months, after this period the groups were inverted, which means, the ones who

received the ointment A made use of B and each other, then they would have their own control about themselves.

III. Results

From the total of 19 volunteers who initiated the research, six finished it (first stage, with utilization of only one kind of ointment), given that 50% (3/6) filled integrally the evaluation chart and 17% (1/6) filled or lost the chart, but were not discarded from the evaluation, because they made it digitalized. With regard to the predisposing factors, it was found that 67% (4/6) of the patients related a link to acid products on the alimentation to the appearance of the injuries, 33% (2/6) for stress, 17% (1/6) reported more than one triggering factor, 17% (1/6) correlated to the appearance of the RMA during the premenstrual period, 17% (1/6) was incapable to indentify the associated factors, as it is shown on Picture 1. It was asked to the volunteers which kinds of therapies they were using to the treatment of the RMA. The results showed that 17% (1/6) used albocresil. The volunteers were instructed to establish a rate of pain from 0 to 10, being 0 the minimal pain and 10 the maximal. The results obtained showed a reduction of average pain from 8,2 to 4,3 after the use of copaiba oil ointment (Picture 2). It was also evaluated the period of healing of the injuries. Before the utilization of the ointment the duration period of the mouth lesions were on an average of 7,3 days and after the use of the ointment based on copaiba oil the healing average of time changed to 4,4 days.

IV. Discussion

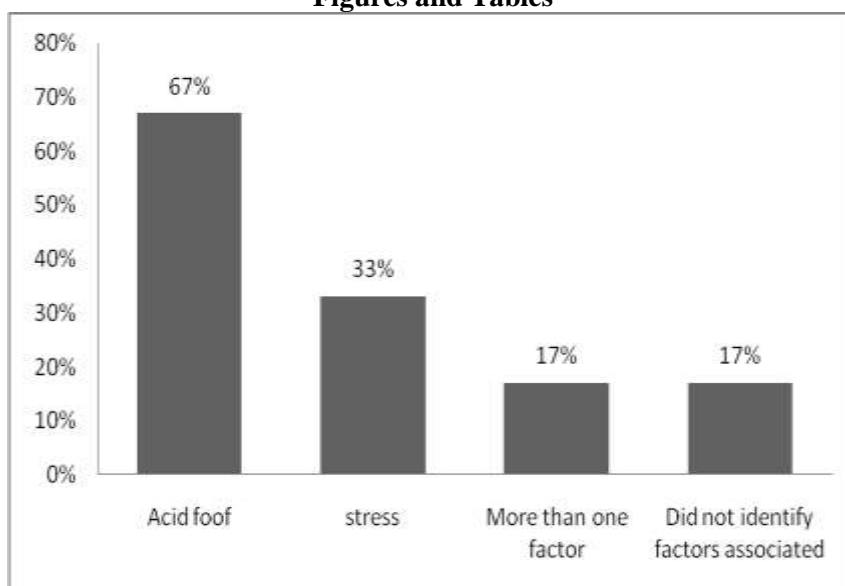
The prevalence of the RMA is elevated on the general population, and due to the discomfort which they caused in their carriers, their recurrences and the difficulty to obtain an effective treatment, they still are a challenge to the professionals who treat them^{2-3,8}.

The etiology of the RMA still is not very defined, and it hampers the study of therapeutic methods. The most prevalence in women found in literature⁸ could be proven with the results of the present work, which could be related to hormonal factors, however, only 20% of the participant women of the research related the thrush episodes to the premenstrual period. The literature points out that many are the predisposing factors to the thrush development²⁻³, which was also found in this study.

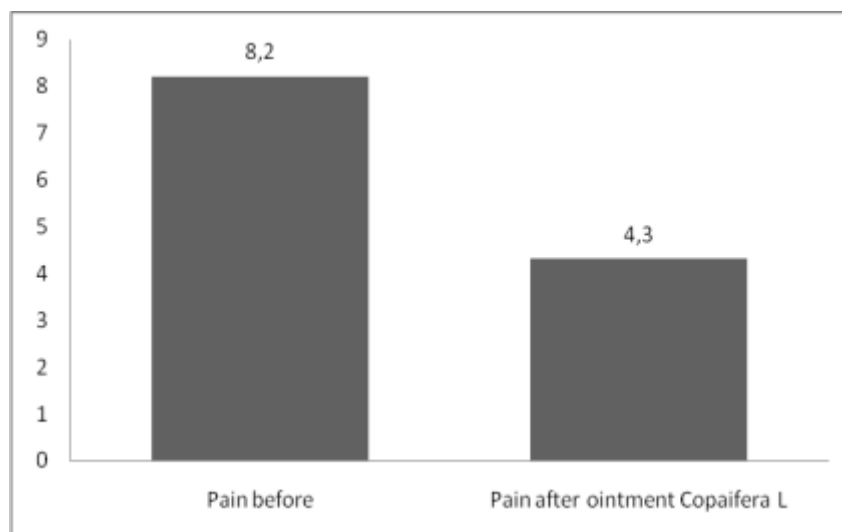
The present work showed that the predisposing factor most related was the consumption of acid products, followed by stress which can be responsible for low immunity, and the association of one more factor. These results corroborate to what is described in the literature, which shows the alimentation, the trauma and the stress, respectively as main factors to the lesion emergences^{3,8}.

Dias da Silva et al., 2013 proved that the application as much topical as systemic of the resin oil on post-operative of dental extractions, reduced the healing time, which we also observed on the present study, proving the copaiba oil healing action, in order to reduce the healing time of the lesions from 7,3 to 4,4 days, such as the rate of pain that was also reduced.

Figures and Tables



Picture 1: predisposing factors to the developing of the RMA presented in percentage.



Picture 2: Average of the rate of pain on the injuries before and after the use of the ointment.

V. Conclusion

Within the limitations of the works, it can be concluded that the oilment based on copaiba oil can be a good alternative for the RMA treatment, however, more studies with a bigger group of volunteers could be performed to the evidence of its effectiveness.

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