Original Article

Evaluation of the Effects of Chamomill Mouthrinse on Recurrent Aphthous Stomatitis

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Abstract:

Statement of Problem: Recurrent aphthous stomatitis (RAS) is one of the most common diseases affecting the oral mucosa. Many topical and systemic medications used to treat RAS have adverse local and systemic effects. Chamomill (kamillosan) has been shown to be an effective drug, without any noticeable side effects.

Purpose: The aim of present study was to assess the efficacy of a chamomill mouthrinse on RAS in comparison with a placebo mouthrinse.

Materials and Methods: The study was designed as a double blind randomized placebo controlled clinical trial with participation of 50 patients diagnosed with RAS. They were randomly divided into two groups: 26 patients forming the test group, received chamomill mouthrinse and 24 patients constituting the control group received a placebo rinse. All subjects were instructed to use the solutions three times a day until complete resolution of the lesions. Treatment outcome was assessed on days 3 and 5 and at the exact healing time. The ability of the solution to control the pain and burning sensation and the diameter of the ulcers was evaluated. Statistical analysis was performed using the χ^2 and unpaired t test for comparison between the two groups.

Results: The chamomill group showed a significant reduction in the time required for controlling the pain and burning sensation ($P<0.01$). Ulcer diameter and healing time were also decreased ($P<0.01$).

Conclusion: Chamomill mouthrinse was effective in the treatment of RAS without producing adverse effect.

Key Words: Aphthous stomatitis; Herbal medicines; Matricaria Chamomilla

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INTRODUCTION

Recurrent aphthous stomatitis (RAS) is a common and painful disorder that may affect 20% of the population [1,2]. This lesion causes difficulty in eating, speaking and swallowing and therefore may negatively affects the patient's quality of life [3,4].

In order to reduce the pain and severity of RAS, a number of medications have been used such as local or systemic steroids, tetracycline mouthrinse, chlorhexidine gel or mouthwash, systemic levamisole, cholchicine and even thalidomide, but each of these medications have the potential to cause side effects [5,6]. Tooth discoloration is a common complaint of patients who use chlorhexidine [7,8]. Candidiasis is an adverse effect of tetracycline and nausea has been reported in most trials of levamisole [9]. Thalidomide is a toxic and teratogenic agent [10].

Recently Chamomill (kamillosan) has been shown to be effective in reducing the pain and discomfort of mucositis without any noticeable side effect, Therefore this herbal extract was

employed in the present study [11]. Chamomill liquidum has been extracted from the flower of the Matricaria Chamomilla plant and is widely used in folk medicine for its carminative, antibacterial, spasmolytic and anti-inflammatory characteristics. The local application of this herbal solution is recommended for relieving inflammatory conditions and promoting epithelization [12,13].

The use of chamomilla for treatment of digestion disorders goes back to the 1st century AD. Hahnemann published the effects of this herbal drug on pain relief in his materia medica pura [14].

The anti-inflammatory and epithelization effects of chamomilla have been investigated by treating artificially-induced skin injuries in 5 healthy patients [15].

Carl and Emrich showed that Kamillosan (chamomilla liquidum) is effective in reducing the intensity of mucositis in people who were under radiation and chemotherapy. No adverse reactions at therapeutic doses have been reported [11].

A research conducted by Talaeipour et al at the Imam Khomeini Hospital, Department of Radiotherapy, Tehran, Iran, proved chamomill mouthrinse to be effective in the reduction of pain and discomfort in patients with radiation mucositis [12].

The purpose of this study was to evaluate the effectiveness of Chamomill mouthrinse against RAS in comparison with a placebo mouthrinse.

MATERIALS AND METHODS

Fifty patients participated in this randomized double-blind placebo-controlled clinical trial. All subjects were selected from patients diagnosed with RAS, attending the Department of Oral Medicine, School of Dentistry, Shaheed Beheshti University of Medical Sciences.

All patients were required to fill and sign an informed consent. The exclusion criteria were as follows:

- More than three days elapsing from the initiation of RAS
- Use of any kind of medication before participating in the study
- Patients suffering from Behcet syndrome or any other immunologic disease

Considering these criteria, 50 patients (27 females and 23 males) with a mean age of 25 years, ranging from 10 to 54 years were entered the study.

The subjects were assigned randomly to either group A (test-group) or group B (control-group). At the initial appointment, an information form was completed for each patient. The intensity of pain and burning sensation was measured by using a visual analogue scale graded from 0 to 10, where 0 is no burning and 10, the worst burning imaginable.

The diameters of the lesions were measured by a periodontal probe (Williams' probe). The test group received Chamomill mouthrinse and the control group received placebo.

The test and placebo solutions were placed in identically appearing containers and the investigator(s) was blind to the contents of the containers. The patients were instructed to use 30 drops of the solution in approximately 100ml of water and rinse for 1-2 minutes, three times a day until complete resolution of the ulcers. The patients were instructed to avoid eating or drinking at least 30 minutes after rinsing.

Every patient kept a diary to record the pain and burning sensation on 2 separate visual scales every day until the elimination of the symptoms.

In order to evaluate the progress of treatment, follow-up examinations took place on days 3 and 5. The intensity of the pain and burning sensation, the amount of epithelization (healing progress) and reduction in the diameter of the ulcers were assessed. The

patients were examined again after complete resolution of the ulcer. During examination, the oral mucosa was observed for local adverse reactions and the patients were questioned if they had experienced any side effects such as irritation or burning sensation in the mouth.

The collected data were analyzed by χ^2 (Chi-Square) and unpaired t-test.

RESULTS

A total of 50 RAS patients fulfilled the selection criteria and were included in the statistical analysis. The subjects were randomly assigned to two groups with 26 patients (14 females and 12 males) in the test group and 24 (13 females and 11 males) patients in the control group. The mean age of the patients in the test and control groups was 24.9 and 25.1, respectively.

The two groups were similar in age and gender with no significant differences between them (P>0.05). After using the mouthrinses the following results were obtained:

The intensity of the pain and burning sensation was significantly lower in the test group as compared to the control group (p<0.01) (Table I).

Regarding the diameter of the lesions, the two groups did not show a statistically significant difference on day 3 (p>0.05), but the diameter of the lesions decreased significantly on day 5, in the Chamomill group (p<0.01) (Fig.1).

Duration of the lesions and the time required for healing were decreased significantly in test group compared to control group (p<0.01).

Table I: Intensity of pain in chamomill and placebo groups based on Visual Analogue Scaling.

Group	Days	Min.	Max.	Mean	SD
Chamomill	3	3	8	5.04	1.25
	5	0	6	2.19	1.170
Placebo	3	4	9	6.37	1.31
	5	0	8	3.83	1.171

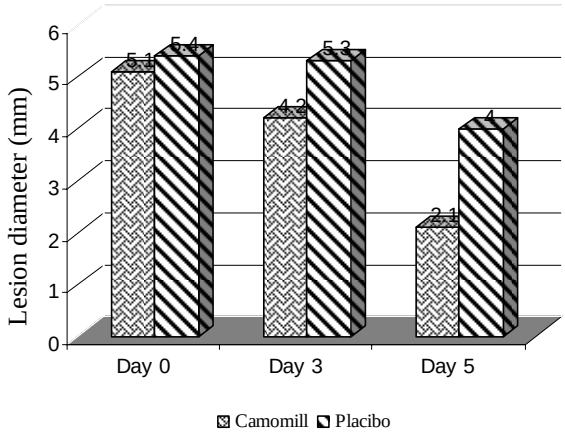

Fig.1: Mean ulcer Diameter in chamomill and Placebo groups in 0, 3 and 5 days.

None of our patients experienced any side effects from the treatment.

DISCUSSION

Aphthous ulcers are among the most common oral lesions in the general population, with a frequency of up to 25% and three-month recurrence rates as high as 50%. In spite of the high prevalence of RAS, the exact cause of this problem is unknown; therefore, treatment has been mainly directed toward the symptomatic management of the lesion. Different protocols have been used for the treatment of RAS which usually create adverse effects [9,16].

In order to minimize drug reactions, it is crucial to use medications with fewer side effects. In recent years, herbal medicines without noticeable adverse side effects have been considered in medicine and dentistry. Carl et al demonstrated accelerated resolution of mucositis and considerable epithelialization after rinsing with Kamillosan (chamomilla liquidum) [11]. Considering these facts, the present study was designed to evaluate the efficacy of Chamomill as a mouthrinse in controlling RAS.

The results of the present study indicate that chamomill mouthrinse reduces the time required for controlling the pain and burning sensation and also decreases healing time and

accelerates epithelization P<0.01 (Table I).

To our knowledge this is the only report evaluating the effect of chamomill mouthrinse on RAS, but the results obtained in this study are relatively compatible with Carl's et al findings [11] indicating that this mouthwash can reduce the duration of pain and promote healing in patients with chemotherapy and/or radiation mucositis.

Considering the fact that all participants attended the clinic during the first 3 days of RAS initiation, examination was carried out in the early stages of the disease and comparison of the two groups showed that early treatment with chamomill mouthrinse could accelerate the healing progress of RAS.

Assessment of the diameter of RAS on the first day of examination did not show a significant differences between the two groups P>0.05 (indicating the validity of the research) but on day 5, the diameter of the lesions decreased significantly in the test group (P<0.01).

The taste of the Chamomill mouthrinse was acceptable for most patients (94%), and none of them experienced any side effects from the treatment. This is in agreement with the results obtained by Talaipour et al [12]. Only three patients complained of bad taste, nevertheless continued to use the mouthrinse.

CONCLUSION

According to the results of this study, Chamomill mouthrinse is an effective treatment for recurrent aphthous stomatitis, without inducing any adverse effects. Further investigation is suggested to evaluate the effect of this herbal agent in the prevention of the recurrence of RAS.

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ارزیابی اثر دهانشویه کامومیل براستوماتیت آفتی راجعه

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چکیده

بیان مسئله: استوماتیت آفتی عودکننده یکی از شایعترین بیماریهای مخاط دهان است. تعداد زیادی داروی موضعی و سیستمیک برای درمان آن توصیه شده که هر کدام عوارض جانبی خاصی دارند. کامومیل (با نام تجاری کامیلوسان) داروی مؤثری است که عوارض جانبی خاصی بدنبال ندارد.

هدف: هدف از مطالعه حاضر مقایسه اثر دهان‌شویه کامومیل در مقایسه با دهان‌شویه دارونما می‌باشد.

روش تحقیق: مطالعه به صورت کارآزمایی بالینی تصادفی دو سو کور با کنترل دارونما بر روی ۵۰ بیمار مبتلا به استوماتیت آفتی راجعه انجام شد. نمونه‌ها به صورت تصادفی در دو گروه قرار گرفتند.در ۲۶ بیمار گروه آزمایش دهان‌شویه کامومیل و در ۲۴ بیمار گروه کنترل دهانشویه دارونما تجویز شد. به تمامی بیماران توصیه شدروزی سه بار تا زمان محو ضایعه از دهان‌شویه استفاده نمایند. اثرات درمانی در روزهای سوم و پنجم درمان ارزیابی می‌شد. همچنین مدت زمان تا محو کامل ضایعه نیز اندازه‌گیری می‌گردید. توانایی محلول در کنترل درد و احساس سوزش و اندازه ضایعات در روزهای فوق‌الذکر بررسی گشت. داده‌ها با استفاده از آزمون Chi-Square و t نمونه‌های مستقل با هم مقایسه شدند.

یافته‌ها: در نمونه‌های کامیومیل مدت زمان بهبودی به طور معناداری کمتر از نمونه‌های دارونما بود. میزان احساس درد، سوزش و اندازه زخم در نمونه‌ها کامیومیل به صورت معناداری کمتر بود. ($P<۰/۰۰۱$)

نتیجه‌گیری: دهان‌شویه کامیومیل بطور مؤثری سبب بهبودی استوماتیت آفتی عودکننده بدون هرگونه عارضه جانبی می‌شود.

واژه‌های کلیدی: استوماتیت آفتی؛ پزشکی گیاهی؛ می‌تراکاریا کامومیل

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