USING OF TOPICAL 5% URTICA DIOICA OINTMENT IN TREATMENT OF PSORIASIS

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ABSTRACT

Tropical Urtica dioica 5% ointment was applied twice daily for 3 months by 53 patients with psoriasis. Patients were classified to 6 groups according to extension of psoriatic lesions. The efficacy of the treatment was determined following a 4 grades criteria, cleared, marked improvement, moderate improvement, and minimal or no improvement. In 38 out of 53 patients (71.698%), all psoriatic lesions were cleared. In 9 patients (16.981%) there was marked improvement, and in 6 patients (11.320%) there was no improvement. The best results were obtained in localized less extensive lesions. The effectiveness of Urtica dioica treatment could be attributed to its vitamin A and flavonoids contents. It is a cheap, safe and effective remedy for this chronic disabling skin disorder.

KEYWORDS: Urtica dioica, ointment, clinical, psoriasis.

INTRODUCTION

Psoriasis is a chronic skin disorder characterized by well demarcated thickened erythematous area of skin covered by silver scales. The disease is highly variable in its extent and duration. Morphological variants are common.1 Patients with a family history tend to have an earlier onset of the disease.2 Many factors play a definite role in the development of the disease, those include trauma, stress, infection, drugs, climate, metabolic factors, smoking, and alcohol consumption. Treatment of psoriasis may be solely topical or it may be systemic, or a combination of both. A wide range of drugs were used in treatment of this disease. These include, calcipotrial, vitamin A, corticosteroids, anthralin, cyclosporine A, methotrexate, and
psoralen with long-wave ultraviolet light (PUVA)\(^{[6-12]}\). Many plants were used for the treatment of different skin diseases including psoriasis.\(^{[13-56]}\) In a previous histological experimental study, when mouse tail skin was used as a model mimicking human psoriasis, it was appeared that 40 days treatment with 5% Urtica dioica ointment was effective in psoriasis based on epidermal thickness and keratinocyte number. The safety of this concentration was also proved.\(^{[57]}\) The present prospective controlled study is carried out to evaluate, the effectiveness of topical 5% *Urtica dioica* ointment in patient volunteers with localized psoriasis.

**PATIENTS AND METHODS**

The study was carried out on 53 patients (32 males and 21 females), 11-63 years in age, attending many private dermatology outpatient clinics in Kirkuk and Baghdad. *Urtica dioica* L. (Urticaceae) ointment was prepared by mixing 5 g of the powdered dried leaves of the herb with 95g of vaseline vehicle. The ointment was topically applied to the affected skin, twice daily for 6 months. 10 patients were topically treated with the vehicle, vaseline by the same manner and for the same period. Patients were classified into 5 groups according to the extension of the lesion according to the (rule of nine) stated by Diette and Morimoto and Yashikowa.\(^{[58-59]}\)

1\(^{st}\) group: The surface area of the lesion >45% of the body.
2\(^{nd}\) group: The surface area of the lesion 36-44% of the body.
3\(^{rd}\) group: The surface area of the lesion 26-35% of the body.
4\(^{th}\) group: The surface area of the lesion 21-25% of the body.
5\(^{th}\) group: The surface area of the lesion 15-20% of the body.
6\(^{th}\) group: The surface area of the lesion < 15% of the body.

The efficacy of the topical *Urtica dioica* treatment was determined following the 4 grades criteria of Weinstein.\(^{[60]}\)

1-Cleared: if all lesions were disappeared.
2-Marked improvement if 50-94% of the lesions were cleared.
3-Moderate improvement: if 10-49% of the lesions were cleared.
4-Minimal or no improvement: if less than 10% of the lesions were cleared, or if they stated the same.
RESULTS

The study showed that *Urtica dioica* 5% ointment cleared all psoriatic lesions in 38 out of 53 patients (71.693%). Marked improvement was recorded in 9 patients (16.981%), while minimal improvement was recorded in 6 patients (11.320%). (Table1). The high percentage of effectiveness was recorded in localized non-extensive lesions.

However, in the majority of the patients, the treatment caused mild itching in the first three days of the initiation of the treatment. This itching can easily tolerated and didn't need cessation of the treatment. All patients (10 patients) in Vaseline treated group (100%) showed minimum improvement (less than 10% of the lesions were cleared or they stated the same).

Table 1: Response of patients with psoriasis after twice daily treatment with 5% *Urtica dioica* ointment for 3 months

<table>
<thead>
<tr>
<th>Treated groups</th>
<th>% of psoriatic surface area/body surface</th>
<th>Response grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45-&lt;36</td>
<td>Cleared (all lesions were cleared)</td>
</tr>
<tr>
<td></td>
<td>26-35</td>
<td>Marked improvement (50-94% of the lesions were cleared)</td>
</tr>
<tr>
<td></td>
<td>21-25</td>
<td>Minimum improvement (less than 10% of the lesions were cleared or they stated the same)</td>
</tr>
<tr>
<td></td>
<td>15-20</td>
<td>Minimum improvement (less than 10% of the lesions were cleared or they stated the same)</td>
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Fig 1: A: Psoriatic lesions involving chest, abdomen and upper limbs. B: Resolution of the lesions after twice daily application of *Urtica dioica* 5% ointment for 3 months.
Fig. 2: A: Widely extended psoriasis. B: Resolution of the lesions after twice daily applications of Urtica dioica 5% ointment for 1 month.

DISCUSSION

The concentration of Urtica dioica and the preparation of the ointment used in this study were previously recommended based on the efficacy and safety in experimental animals.[57] Urtica dioica herb contains many pharmacologically active compounds, these include flavonoids (quercetin, rutin and kaempferol), vitamin A and C, enzymes, lecithin, amines, carbonic acids (formic and citric acids) and minerals especially calcium and potassium salts.[62-63] The effectiveness of Urtica dioica topical treatment could be attributed to its vitamin A content. Vitamin A is involved in maintaining differentiation of skin cells. The retinoid is photosensitive compound, and there are a specific transport protein (Retinol-binding protein) which has its own receptors in human epidermis in stratum corneum and stratum granulosum.[64] Jarrett and Spearman[65] stated that the effectiveness of vitamin A in inducing a granular layer in the psoriatic skin was attributed to its rectifying effect on the ruptured lysosomes. On the other hand, various flavonoids were found to be relatively inhibitors of arachidonate 5-lipoxygenase which initiates the biosynthesis of leukotrienes.[66-67] It was known that 5-lipoxygenase products such as 12-hydroxy eicosatetraenoic acid and leukotriene B4 are several folds elevated in psoriatic epidermis as compared to uninvolved skin.[25-26] These leukotrienes cause persistent erythematous reaction that is associated with enhanced epidermopoiesis, leukocyte infiltration in dermis, and the appearance of micro abscesses in the epidermis.[68] All these, pathophysiological event mimicking the feature of psoriasis. Thus the effectiveness of Urtica dioica ointment in psoriasis could be attributed to its flavonoids content which are potent inhibitors of arachidonates 5-lipoxygenase.[69] In conclusion Urtica dioica 5% ointment was recommended in treatment of psoriasis. The best results were expected when the lesion is localized. The treatment is cheap, safe, and effective.
REFERENCES


