Keracnyl® in the Management of Acne

M NAIK*, R CHAVDA**, V Durosier**, G MUKADDAM*, R KHARKAR†

ABSTRACT

Objectives: To evaluate the utility of topical application of Keracnyl® cream in the treatment of mild-to-moderate acne in real life situations.

Material and methods: Patients (male and female) with clinical diagnosis of mild-to-moderate acne and without severe cystic lesions or nodules were enrolled. In the study and were instructed to apply Keracnyl® cream either alone or with topical anti-acne medications. The cream contains alpha-hydroxy acids (AHAs), Myrtacine® and Sabal serrulata (Keracnyl® cream) as an additive to topical anti-acne medications in the treatment of mild-to-moderate grades of acne. The patients were assessed at baseline and at follow-up visit after eight weeks. Primary efficacy assessments were clinical improvement and secondary efficacy assessments were global efficacy and quality-of-life assessment at the end of eight weeks. Results: The clinical improvement using modified Physician Visual Analog Scale (PVAS), showed moderate to marked improvement in 65.86% of acne patients at the end of eight weeks. The Investigators Global Assessment (IGA) showed that there was a significant decrease in the severity of acne, this decrease was maximum in the group of patients whose acne was graded as almost absent from 10% of patients at baseline to 40.69% at follow-up. The Global Acne Grading System (GAGS) assessment demonstrated a significant reduction in the overall severity of acne in all the zones. A mean change of ~37.5% in seborrhea severity was noted at the end of treatment. Majority of the patients (>90%) were satisfied with the cosmetic qualities of Keracnyl® cream. Few patients had mild side effects (dry skin as the most frequent, 9.18%), but most of which resolved over continued application and none of the patients needed discontinuation of therapy due to local adverse events. About 90.69% of patients opined that Keracnyl® cream was efficacious and 99.6% of the patients demonstrated good tolerability. Conclusions: The dermocosmetic cream containing Myrtacine® (Keracnyl® cream) is effective and safe with cosmetic qualities to be used as monotherapy and as an adjunct to anti-acne medications in treatment of mild-to-moderate acne vulgaris.

Keywords: Acne, Myrtacine, IGA, GAGs, dermocosmetic

Acne vulgaris is a common dermatological disorder of the pilosebaceous unit presenting usually at puberty. Although acne is not physically disabling, its psychological impact can be striking, contributing to lower self-esteem, depression and anxiety. As a result, there is a significant demand for effective acne therapies. It is characterized by the formation of open and closed comedones (noninflammatory lesions), papules, pustules and nodulocystic lesions (inflammatory lesions) generally affecting the face, arms and back. The pathogenesis is complex and multifactorial, which includes abnormal sebum production, follicular hyperkeratinization, bacterial proliferation and inflammation. The treatment goals are directed to reduce activity of the sebaceous glands, normalize follicular proliferation, reduce bacterial colonization and control inflammation. Therefore, topical comedolytics, antibacterials and retinoids are mainly used for mild-to-moderate and severe acne. Systemic therapy with antibacterials, retinoids and hormones are mainly indicated for severe cases. Although effective, these therapies are associated with significant adverse effects. Retinoids have teratogenic potential. Antibiotics, as in most cases of infection, are associated with the problem of resistance, and therefore, therapeutic failure.

Keracnyl® topical cream is especially designed to manage patients with a tendency for acne, alone, in combination or in continuum to topical or oral anti-acne therapies. Its active ingredients are alpha-hydroxy acids (AHAs), Myrtacine® and Sabal serrulata. It has keratolytic, antiproliferative, antibacterial (against Propionibacterium acnes) and anti-inflammatory effects. Myrtacine® is the active extract obtained from Myrtle, Myrtus communis, which is a Mediterranean shrub, the leaves of which are known since times immemorial for their antiseptic and anti-inflammatory properties. Myrtacine® has shown purifying, keratorenducing properties (on P. acnes) and particularly rewarding anti-irritant in managing acne vulgaris. AHAs have been used in the management of acne since many
years. They have shown promise both as topical creams\(^9\) as well as chemical peels.\(^{10,11}\) S. serrulata obtained as odor-free extract (by Pierre Fabre Phytochemical Research) from the fruits, which look like small dates of a small American palm tree, Sabal, which has been described in literature as possessing antiseborrheic properties, used in the management of acne. The current study is a postmarketing surveillance study. It is a questionnaire-based observational study to evaluate the utility of Keracnyl\(^\circ\) cream in the treatment of mild-to-moderate acne in real life situations.

**OBJECTIVE**

To evaluate the utility of Keracnyl\(^\circ\) cream in the treatment of acne under actual conditions of use.

**MATERIAL AND METHODS**

The current study was a prospective, observational study conducted by practicing dermatologists all over India. Patients presenting with mild-to-moderate acne, for which the doctor had prescribed Keracnyl\(^\circ\) cream were included in the study. Patients who were not willing to participate, those with severe acne and who were not likely to be observant during the observational period were excluded from the study. Additionally, patients with a known allergy to any of ingredients of Keracnyl\(^\circ\) cream, those being treated with oral isotretinoin and pregnant/lactating women were excluded. The patients included by the dermatologists were reviewed during a follow-up visit, eight weeks after the initial visit, when they were included in the study.

The assessments were carried out by clinicians as well as by patients. Assessment by clinicians included Investigator's Global Assessment (IGA), Global Acne Grading System (GAGS), evolution of patients’ acne and effects of Keracnyl\(^\circ\). For the IGA, acne severity was assessed by clinician on a five point scale (0-4):

- Absent: No retention lesion or residual inflammatory, hyperpigmentation and/or erythema possible
- Almost absent: Some blackheads and some tiny papules
- Slight/Mild: Easily recognizable; less than half the face is affected with a few blackheads, papules and pustules
- Moderate: More than half the face is affected with numerous blackheads, papules and pustules; a nodule may be present
- Severe: The whole face is affected, covered with blackheads, various papules and pustules with some nodules and cysts.

The local and overall assessment of severity of acne was assessed by GAGS, where each of the five zones on face were listed separately from 0 to 4 (0: No lesion, 1: At least one blackhead, 2: At least one papule, 3: At least one pustule and 4: At least one nodule). The assessments were done for the following regions: (i) Forehead (ii) right cheek (iii) left cheek (iv) nose (v) chin and (vi) neck, chest and upper back. Evolution of patients’ acne was assessed based on the overall progress of the patients’ clinical response. Assessment of effects of Keracnyl\(^\circ\) was done on the basis of questions related to overall efficacy, side effects, patient compliance and level of patient satisfaction. Self-assessment by patients was done by a self-assessment questionnaire with eight questions to be responded on a visual scale. The impact on quality-of-life was assessed by the Cardiff Acne Disability Index (CADI), with five questions to be answered by the patients. The evolution of acne in patients was assessed based on the question “From the beginning of your treatment with Keracnyl\(^\circ\), how do you assess the progress of your acne?” Patients’ satisfaction of therapy was assessed based on questions on efficacy, tolerance, unwanted effects and cosmetic qualities at the end of two months. All adverse events (AEs) and serious adverse events (SAEs) were considered for safety analysis.

Measurement data were expressed as means with one standard deviation. Discrete data were expressed as numbers with proportions. Ranking data for IGA were expressed as numbers and percentages. Mean scores were estimated for IGA, GAGS, self-assessment questionnaire and specific quality-of-life questionnaire at baseline and after therapy. Mean change and percent change in scores from baseline were calculated. Baseline scores for IGA, GAGS, self-assessment questionnaire and specific quality-of-life questionnaire were compared with post-treatment scores for any difference using Wilcoxon’s test. Comparison of IGA at baseline versus post-treatment was done using Chi-square test. All testing was done using two-sided tests at alpha 0.05.

**RESULTS**

A total of 61 dermatologists, recruited five patients each, who fulfilled the inclusion criteria. A total of 305 patients were enrolled in the study out of which 290 patients completed the study and 15 patients were lost to follow-up. The demographic and baseline characteristics of the patients are shown in Table 1. The mean duration of treatment was for eight weeks and the frequency of application was twice-daily in 58% and once-daily in 42% of the population.

**Clinical Efficacy of Keracnyl\(^\circ\) Cream by Physicians**

**Investigator’s Global Assessment**

The IGA showed that there was a significant decrease in the severity of acne (p < 0.0001). This decrease was maximum in the group of patients whose acne was graded as ‘almost absent’ from 10% of patients at baseline to 40.69% at follow-up (Fig. 1). The details of other therapeutic as well as cosmetic products used by patients in the past as well as during the study are elaborated in Figures 2 and 3. The usage of medications co-prescribed both specifically for acne lesions as well as those used for overall skin hygiene are shown in Figure 3. All the concomitant medications were very well-tolerated in all the patients and also improved the overall response of acne lesions, signifying the concomitant usage of Keracnyl\(^\circ\) cream.

**Global Acne Grading System Assessment**

The GAGS demonstrated a significant reduction (p < 0.0001) in the local and overall severity of acne, which was observed in all the zones (forehead, right cheek, left cheek, nose, chin, chest and upperback); (Fig. 4). The percentage change from baseline across different zones ranged from 46.21 to 54.22.
In the current study, seborrhea severity was mild-to-moderate in 88.2%, absent in 3.28% and severe in 8.52% of patients as shown in Table 2. After treatment with Keracnyl®, there was a mean change of 37.5% (p < 0.0001) from baseline.

Overall Efficacy of Keracnyl® in Acne Improvement

Overall, significant efficacy was seen in all the efficacy parameters like IGA, GAG, seborrhea for acne improvement (Fig. 5).

Side Effects

A total of 78 patients had mild side effects most of which resolved over continued application and did not require the patients to discontinue the treatment (Table 3). The drug was very well-tolerated, with no serious AEs.

Therapy Compliance

About 99.6% of the patients showed moderate to good compliance to treatment with the study drug.

Evaluation of Acne by Patients using Self-assessment Questionnaire

According to the scores of the self-assessment questionnaire answered by patients, there was a significant change compared to baseline (p < 0.0001). The decrease was maximum in the

**Table 1. Demographic and Baseline Characteristics**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>95</td>
<td>31.15</td>
</tr>
<tr>
<td>Female</td>
<td>210</td>
<td>68.85</td>
</tr>
<tr>
<td>Positive family history</td>
<td>150</td>
<td>49.18</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤19 years</td>
<td>97</td>
<td>31.80</td>
</tr>
<tr>
<td>20-29 years</td>
<td>182</td>
<td>59.67</td>
</tr>
<tr>
<td>≥30 years</td>
<td>26</td>
<td>8.52</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>21.92</td>
<td>5.33</td>
</tr>
<tr>
<td>Duration of illness (months)</td>
<td>9.62</td>
<td>18.58</td>
</tr>
</tbody>
</table>

**Table 2. Seborrhea Severity**

<table>
<thead>
<tr>
<th>Severity grade</th>
<th>No.</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absent</td>
<td>10</td>
<td>3.28</td>
</tr>
<tr>
<td>Slight/Mild</td>
<td>124</td>
<td>40.66</td>
</tr>
<tr>
<td>Moderate</td>
<td>145</td>
<td>47.54</td>
</tr>
<tr>
<td>Severe</td>
<td>26</td>
<td>8.52</td>
</tr>
</tbody>
</table>

**Figure 1. IGA at baseline and follow-up.**

**Figure 2. Types of prescriptions combined with Keracnyl® cream.**

**Figure 3. Other products co-prescribed with Keracnyl® cream.**

**Figure 4. Improvement of mean GAGS score.**

**Figure 5. Significant decrease in all acne-severity evaluation parameters with Keracnyl® (p < 0.0001).**

**Seborrhea Severity Evaluation**

In the current study, seborrhea severity was mild-to-moderate in 88.2%, absent in 3.28% and severe in 8.52% of patients as shown in Table 2. After treatment with Keracnyl®, there was a mean change of 37.5% (p < 0.0001) from baseline.
Most patients (>90%) were satisfied with the cosmetic qualities of Keracnyl. The most frequent side effects were dry skin as the most frequent side effect (n = 28; 9.18%). This was followed by pricking sensation (4.26%), redness (4.92%), and others (0.66%).

When the acne evolution was self-assessed by patients, it was marked improvement in 127 patients, moderate improvement in 80 and slight improvement in 59 of them, respectively; 15 patients found mild to no change. About nine of them reported total disappearance of papules and pustules in patients treated with Keracnyl versus 31% with adapalene.

In another study by Durosier et al, the lesion count had significantly decreased at any location (forehead, cheeks, or chin) at Day 28 and Day 56: 69% decrease for inflammatory lesions at Day 56 (p < 0.001). Overall efficacy for inflammatory lesions at Day 56 (p < 0.001) and 68.8% decrease of treatment, there was a 60% mean reduction of papules and pustules in patients treated with Keracnyl versus 49% in those treated with adapalene. There was a 52% reduction in comedones with Keracnyl versus 31% with adapalene. In a study by Mengeaud et al in patients with acne, after 56 days of treatment, there was a 60% mean reduction of papules and pustules in patients treated with Keracnyl versus 49% in those treated with adapalene.

The findings of the present study are in line with other studies conducted using Keracnyl in patients with acne. In a study by Mengeaud et al in patients with acne, after 56 days of treatment, there was a 60% mean reduction of papules and pustules in patients treated with Keracnyl versus 49% in those treated with adapalene. There was a 52% reduction in comedones with Keracnyl versus 31% with adapalene. In another study by Durosier et al, the lesion count had significantly decreased at any location (forehead, cheeks, or chin) at Day 28 and Day 56: 69% decrease for retentional lesions at Day 56 (p < 0.001) and 68.8% decrease for inflammatory lesions at Day 56 (p < 0.001). Overall efficacy.
was judged significant by the investigator in 80% of the cases. In another study by the same group, the investigators considered the efficacy of Keracnyl® on the acne lesions as ‘satisfactory’ to ‘very satisfactory’ in 84% of the volunteers after six weeks of treatment.

In the current study, seborrhea was mild-to-moderate in 88.2% of patients. After treatment with Keracnyl®, there was a mean change of –37.5% (p < 0.0001) from baseline. The study by Durosier et al demonstrated that at Day 28 and Day 56, the score of seborrhea had also significantly decreased (p < 0.001). Ambonati et al showed a significant decrease in the level of sebum at Day 14 with Keracnyl® and at Day 28 with reference product. When patients assessed seborrhea, 95% of them reported seborrhea normalization, with no significant difference between the Keracnyl® and Exfoliac® at six weeks.

Most of the patients were satisfied or very satisfied with the cosmetic properties of Keracnyl®. Similar findings were seen in the study by Durosier et al, where cosmetic qualities of Keracnyl® were judged ‘satisfactory’ or ‘very satisfactory’ by the patients. In our study, Keracnyl® was very well-tolerated (99.6%) by the patients. Dryness of skin was the commonest side effect. Durosier demonstrated that overall tolerance was good or very good in 92% of the cases. In their study, erythema and desquamation had significantly decreased (p < 0.001). When compared to retinoid cream, Keracnyl® induced lower frequency of dryness (p < 0.02 at Day 28 and 56) and scaling at Day 28. Both creams decreased the intensity of erythema similarly. In the study by Ambonati et al, no side effects were reported, and 100% of patients evaluated the safety as ‘good’ to ‘very good’.

CONCLUSION

Our study shows that Keracnyl® is a safe and effective option for the management of mild-to-moderate acne. The main limitation of our study is that this was a single arm, open label study, with no comparator. Therefore, larger, multicentric, randomized trials would help to confirm these findings.

Acknowledgment


REFERENCES


Disclaimer: Although great care has been taken in compiling and checking the information given herein to ensure that it is accurate, the publisher shall not be in no way directly or indirectly responsible for any error, omission or inaccuracy in this publication whether arising from negligence or otherwise. JUCP Publications Ltd. does not guarantee, directly or indirectly, the quality or efficacy of the product or service described in the advertisements or other material which is commercial in nature in this publication.
Grade 1 & Grade 2 Acne

KERACNYL Cream

Novel treatment for oily & acne prone skin

1. **Sebum-reducing effect**
2. **Kerato-reducing effect**
3. **Anti-bacterial effect**
4. **Anti-inflammatory effect**

Indications & Usage:
- **Grade 1** - Monotherapy
  - 2 applications daily for 6 weeks
- **Grade 2** - Combination Therapy
  - 1 application daily till treatment completion

- **Matifying**
- **Non-Greasy**
- **Make up friendly base**

Tube with applicator tip

Keracnyl Complete Regulating Cream
Composition: Myrtylone - Glycolic Acid - Salicylic Acid - Lactic Acid - Zinc Salicylate - Sabal Serrulata Indication: Treatment for oily and acne-prone skin (grades 1 and 2).
Monotherapy or combination therapy. Dose and Administration: Apply Keracny complete regulating care once or twice daily to thoroughly cleaned and towel-dried skin. Avoid the eye and lip contour. Precautions and warning: For external use only. Upon application, a slight tingling sensation may occur. This is however temporary and related to the product's activity. If symptoms persist, consult your doctor. Contra-indications: If any: Do not use for children. Storage: Keep out of reach of children.

1. MIC Myrtylone = 9.7μg/ml assessed on strains of Propionibacterium Resistente to erythromycin and S. epidermidis, in vitro.
2. In vitro evaluation on normal human keratinocytes regarding the inhibitory effect of Myrtylone on the production of eicosanoids stemming from cyclooxygenase and lipooxygenase pathways during induced by an inflammatory reaction. Insurn Team B. Py.

*Ducray Labs. Product Information Leifel, Pierre Fabre # Polyethylenehexylate

Dermocosmetic