

TREATMENT OF MILD TO MODERATE PSORIASIS WITH RELIEVA™, A MAHONIA AQUIFOLIUM EXTRACT

A DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

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Abstract

Psoriasis is usually treated with local and systemic medications that have varying degrees of efficacy and safety profiles. This randomized, double-blind, placebo-controlled study examined the efficacy and safety of an alternative treatment from natural sources, Mahonia aquifolium (Reliëva™), for the management of mild to moderate psoriasis. Efficacy and safety were assessed using the Psoriasis Area Severity Index (PASI) and the Quality of Life Index (QLI) questionnaires at different times throughout the 12-week study. The outcome of the study demonstrates statistically significant ($P < 0.05$) improvements in PASI and QLI in the Reliëva-treated group, compared to the control group. Reliëva™ offers an effective and well-tolerated treatment in patients with mild to moderate psoriasis.

Introduction

Treatment of psoriasis is problematic because the severity and distribution of psoriatic plaques varies immensely.¹

Mahonia aquifolium (Barberry, Oregon grape, Berberis) was initially used in American folk medicine as an oral medication for inflammatory skin diseases, including psoriasis.² Studies by Augustin found that Mahonia aquifolium, markedly reduced the inflammatory and keratinocyte hyperproliferation markers typically seen in psoriasis.³ Other placebo-controlled, open clinical trials and observational studies have reported an improvement in psoriatic plaques in greater than 70% of patients treated with Mahonia aquifolium cream.^{4,5}

This study assessed the efficacy and safety of the topical cream Reliëva™, containing a proprietary form of Mahonia aquifolium known as Psorberine™, in patients with mild to moderate plaque psoriasis.

Study Design

Randomized, placebo-controlled, double-blind, multi-centre clinical trial conducted at 6 sites in the USA and Canada between August 2004 and February 2005 over a 12 week period.

Test Compound: Reliëva™ (containing 10% Mahonia aquifolium, known as Psorberine™ in Novasome® a proprietary cream base liposome vehicle).

Placebo: Reliëva™ vehicle minus the active Psorberine™.

Patient Inclusion Criteria: 200 mixed gender patients (100 per treatment group) between ages 18 and 80, in good overall health with current mild to moderate plaque psoriasis covering less than 10% to 15% of their bodies (Table 1).

Table 1: Patient Demographics and Baseline Disease

	Reliëva™ (N=100)	Vehicle minus Active (N=100)
Mean Age, years (SD)	48.3 (±13.7)	48.3 (±14.0)
Males, N (%)	51 (51%)	42 (42%)
Females, N (%)	49 (49%)	58 (58%)
PASI at baseline (Mean±s)	6.93 (±2.6)	6.85 (±2.9)
QLI at Baseline (Mean ±s)	60.9 (±32)§	56.6 (±31)

Exclusion Criteria: patients with painful or inflamed lesions, intertriginous psoriasis, extremely hypertrophic lesions and severe psoriasis. Patients using topical psoriasis medications within the past 2 weeks, and those taking systemic medication within the past 28 days.

Application: Twice a day to the selected area for 12 weeks.

Assessment: 0, 4, 8, 12 weeks utilizing Psoriasis Area Severity Index (PASI) evaluation and/or patient Quality of Life Index (QLI) Questionnaire.

Results

At the conclusion of the study, statistically significant improvements in PASI and QLI were observed in the Reliëva™ treated group compared to the vehicle minus active treated group (Tables 2&3, Figures 1&2). Beneficial effects were observed in all measures assessed in both treatment groups. No significant side effects were reported in either group.

Of the 200 patients that started the trial, 171 completed the trial (97 in Reliëva™ group and 74 in control group). Discontinuation primarily occurred due to non response to treatment and non-compliance with protocol. Both intent-to-treat population and per-protocol analyses were conducted on all patients who entered the study.

Table 2: PASI Scores – Intent-to-treat population

	n	Reliëva™	n	Vehicle minus Active	p-value*
Baseline	100	6.93	100	6.85	>0.1
Week 12	100	3.27	100	4.7	
Average ¹	100	3.39 (3.59 sd)	100	0.09 (4.85 sd)	
Median ¹	100	3	100	0.0	0.0095

Table 3: Quality of Life Index (QLI) – Intent-to-treat population

	n ¹	Reliëva™	n	Vehicle minus Active	p-value*
Baseline	99	60.2	100	56.6	>0.1
Week 12	99	36.6	100	58.6	
Average ¹	99	23.6 (31.3 sd)	100	-3.9 (41.7 sd)	
Median ¹	99	20	100	7.5	0.0001

Figure 1: Median Percentage Improvement in PASI Score

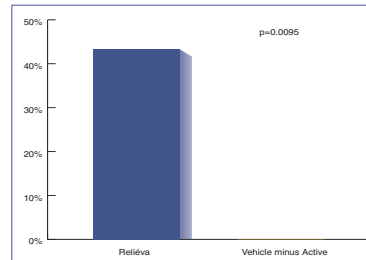


Table 2 presents the PASI scores as an intent-to-treat population analysis. The PASI scale ranged from 0 (no skin involvement) to 12 (severe involvement) thus a reduction in the score indicates improvement.

*Wilcoxon Rank Sum p-value. ¹Reduction from baseline.

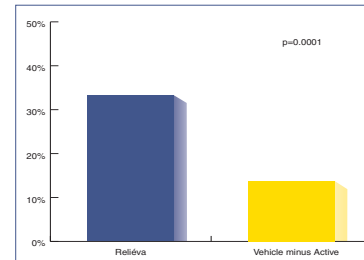
The test area was evaluated based on the amount of skin in the template affected (0 – 100 %). Erythema (redness), infiltration (thickness), and desquamation (scaliness) were assessed as none (0), minimal (4), mild (8), moderate or severe (12) and translated into a number (0-4) for at each time point. The PASI score was calculated using the following equation: PASI = % affected x (erythema + infiltration + desquamation). Maximum PASI = 100 % x (4 + 4 + 4) = 12.

Table 3 presents the QLI scores that assessed the patient's quality of life and adverse events on the intent-to-treat population. It included 12 questions that were quantified from "not at all" to "very much" using a number from 0 to 10. A decreasing score indicates a positive treatment benefit. The average QLI change showed that patients in the control group experienced a reduced QLI which is reflected in the negative score. Overall, looking at the median QLI change, the control group experienced a slight increase in QLI while the Reliëva treated group experienced a significant improvement in their QLI.

¹One patient did not have baseline scores and was excluded from this analysis
*Wilcoxon Rank Sum p-value

The change in QLI was calculated at the end of study by subtracting the week 12 score from the QLI score at baseline. A decreasing score indicated a positive treatment benefit.

Figure 2: Median Percentage Improvement in Quality of Life Index



Discussion

Psoriasis is a difficult disorder to treat due to the variation of the severity and distribution of psoriatic plaques and the side effects of the current medications.

This randomized, placebo-controlled, double-blind, multi-centre clinical trial demonstrated that the Reliëva™ treated group showed a significantly greater reduction in the PASI score compared to the control (placebo) group. A similar greater reduction was reported for the QLI scores for the active compared to the control group.

The significant improvement within the active group is also reflected in the drop-out rate within the study. 26% of patients dropped out of the control (vehicle minus active) group due to lack of response and non-compliance while only 3% dropped out of the Reliëva™ treatment group. This significant drop out rate is obvious in the intent-to-treat population analysis where the median difference showed little-to-no improvement in the control group.

The tolerability of the active Mahonia aquifolium (Reliëva™) topical cream was excellent with a low side effect profile. The reported side effects (<2% study population) were rash and a burning sensation when applying the cream which only occurred in the control (vehicle without the active) group.

Conclusion

Reliëva™ topical cream is a safe and effective treatment for mild to moderate plaque psoriasis.

Reliëva™ topical cream demonstrated statistically significant improvement of the signs and symptoms of mild to moderate plaque psoriasis.

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