Clinical Study Synopsis for Public Disclosure

The clinical study synopsis

- is supplied for information purpose only
- was authored with best practice and applicable legal and regulatory requirements at the time of study completion
- may include non-approved uses or formulations. Please note that the results from a single trial does not provide the overall risks and benefits of all data currently available for a product.

SYNOPSIS

Name of sponsor/Company: Moberg Derma AB		*(For National Authority Use only)*
Name of Test Product: K40a, K40b		
Names of Active Ingredients: Propylene glycol Urea Lactic Acid		

Title of Study:

A multicenter, randomised double blind, placebo-controlled study of efficacy, safety and tolerability of two topical K40 formulations in adults with seborrhoeic dermatitis (SD) of the scalp.

Study Centres:

A total of 12 centres in Sweden.

Publication (reference): L. Emtestam et al Treatment of seborrhoeic dermatitis of the scalp with a topical solution of urea, lactic acid, and propylene glycol (K301): results of two double-blind, randomised, placebo-controlled studies. Mycoses. 2012 Sep;55(5):393-403.

Studied period (years):	**Phase of development:**
First patient enrolled 2007-02-05 Last patient completed 2007-05-25	Phase II / III

Objectives:

The primary objective of the study was to evaluate the efficacy of K40 (K40a and K40b combined) compared to placebo after 4 weeks treatment.

The secondary objectives were to evaluate the efficacy after 2, 4, and 8 weeks of treatment of K40 (K40a and K40b combined) compared to placebo, to assess safety and tolerability of K40a and K40b, and to compare cosmetic properties of K40a and K40b.

Methodology:

This was a multicenter, randomised double blind, placebo-controlled study of two topical K40 formulations in adults with SD of the scalp. The patients were randomly allocated to one of the two K40 formulations or to a matching placebo, to be applied once a day for 4 weeks. Thereafter, a maintenance phase followed for 4 weeks with application 3 times per week.

Number of patients:

One hundred (100) patients were planned. In total, 98 patients were randomized in the study and took at least one dose of study medication. Ninety (90) patients were analysed in the Full Analysis Set (FAS) population whereas 74 patients were analysed in the Per Protocol Analysis Set (PPAS) population. All 98 patients were included in the Safety population.

Population and inclusion criteria:

- Male or female (including fertile women)
- 18-65 years of age
- SD of the scalp for at least 2 months
- Presenting erythema and desquamation of mild, moderate, pronounced or severe intensity
- Signed written informed consent

Exclusion criteria:

- Patient on an antifungal, selenium sulphite or corticosteroid therapy within the last 2 weeks prior to start of study treatment
- Any other cutaneous disease of the face requiring a specific topical treatment (corticosteroids, antifungals, antibiotics, retinoids, benzoyl peroxide or alpha-hydroxyacids) during the previous 15 days
- Oral treatment with cyclines, lithium, antifungals or inhaled corticosteroids during the previous month
- Use of systemic corticosteroids and retinoids during the previous 2 months
- SD associated with Parkinson's disease, human immunodeficiency virus infection
- Current or any history of ear, nose and throat carcinoma,
- Current or any history of severe concomitant disease according to Investigator's judgement
- Allergy to any of the tested treatment components

Test product, dose and mode of administration, batch number:

K40a (batch numbers: S-MD 61001A, S-MD 61004A) or K40b (batch numbers: S-MD 61002A, S-MD 61005A) were to be applied to affected areas of the scalp once daily for 4 weeks. Thereafter, 3 times per week for another 4 weeks.

Duration of treatment:

Eight weeks (4 weeks treatment phase + 4 weeks maintenance phase)

Reference product (placebo), dose and mode of administration, batch number:

Placebo (batch number: S-MD 61003A) was to be applied to affected areas of the scalp once daily for 4 weeks. Thereafter, 3 times per week for another 4 weeks.

Criteria for evaluation:

Efficacy:

- The sum of erythema and desquamation scores at Week 4
- Sum of erythema and desquamation scores at Week 2 and 8.
- Responder defined as a patient with complete remission (sum of erythema and desquamation scores=0) or partial remission (sum of scores=1 or 2)
- Erythema score at Week 2, 4 and 8
- Desquamation score at Week 2, 4 and 8
- Doctor's Global evaluation at Week 4 and 8
- Patient's Global evaluation at Week 4 and 8
- Patient's pruritus score at Week 2, 4 and 8
- Patient's dandruff score at Week 2, 4 and 8
- Dermatology Life Quality Index (DLQI) assessed by the patient at Week 4 and 8
- Cosmetic properties; ease of application at Week 4 and 8
- Cosmetic properties; stickiness at Week 4 and 8
- Cosmetic properties; effect on hair quality at Week 4 and 8

Safety:

Adverse Events (AEs), including transient pain/smarting, irritation, occurring immediately after application of the products are presented. The proportion of patients who discontinued due to AEs is displayed.

Statistical methods:

Efficacy:

In all efficacy analyses, with exception of cosmetic properties, the two K40 formulation treatment arms were pooled and compared to placebo treatment. However, descriptive statistics were also presented for each of the K40 formulations.
The primary efficacy variable (sum of erythema and desquamation scores at week 4) was analyzed using a proportional odds model. Baseline sum score was included in the model.
Sum of erythema and desquamation scores at Week 2 and 8, erythema score, desquamation score, doctor's and patients' global evaluation, patient's pruritus and dandruff scores were also analyzed with proportional odds model and where appropriate, corresponding baseline value was included in the model.
The binary variable Responder was analyzed using logistic regression. Baseline erythema and desquamation scores were included in the model.
DLQI was analyzed with analysis of covariance (ANCOVA). The baseline value was included in the model.
Compliance was analyzed descriptively.
The two K40 formulations were compared regarding cosmetic properties and tested with ANCOVA.

Safety:

Safety was presented and discussed with descriptive statistics.

SUMMARY – CONCLUSIONS

EFFICACY RESULTS:

FAS population (all p-values in favour of K40a+b over placebo except stickiness, which is in favour of K40a over K40b).

Variable	Week 2	Week 4	Week 8	Comment
Sum of erythema and desquamation scores	p=0.0434	p=0.0253	n.s.	Primary efficacy variable at Week 4.
Responders	n.s.	p=0.0075	n.s.	
Erythema score	n.s.	n.s.	n.s.	
Desquamation score	n.s.	p=0.0031	p=0.0265	
Doctor's Global evaluation	NA	p=0.0049	n.s.	
Patient's Global evaluation	NA	p=0.0325	n.s.	
Patient's pruritus score	n.s.	n.s.	n.s.	
Patient's dandruff score	p=0.0049	p=0.0012	n.s.	
DLQI	NA	n.s.	n.s.	
Ease of application	NA	n.s.	n.s.	
Stickiness	NA	p=0.0531	p=0.0372	
Hair quality	NA	n.s.	n.s.	

SAFETY RESULTS:
There was no difference between the three treatments regarding the total number of AEs or total number of patients with at least one AE. There were too few events in respective SOC to draw any conclusion regarding differences between the groups.

Conclusions:

Both K40 formulations are markedly more efficacious than placebo in treatment of seborrhoec dermatitis of the scalp. K40a tends to be more efficacious than K40b, which is most notable in the analysis of responders, as well as being perceived to be cosmetically more favourable (less sticky).

Date of the Report:

2007-09-28