NEEM

An open clinical study to evaluate the efficacy and safety of Neem caplets in Acne Vulgaris

INVESTIGATOR

Dr. Harish M.R

Associate Professor, Department of Dermatology

Mandya Institute Of Medical Sciences

Mandya–571401

Himalaya™

WELLNESS SINCE 1930

OBJECTIVES OF THE STUDY

To evaluate the safety and efficacy of a pure herb Neem (Azadirachta indica) in patients suffering from acne vulgaris.

STUDY DESIGN

Open clinical study.

PRIMARY ENDPOINTS

The primary end point was clinical recovery from Acne vulgaris.

SECONDARY ENDPOINTS

Incidence of adverse effects and overall compliance to the drug.

INCLUSION CRITERIA

- Adult patients of both sex suffering from mild to moderate acne vulgaris.
- Both male and female patients aged more than 18 years of age.
- Patients willing to give written informed consent and comply with the study procedures.

EXCLUSION CRITERIA

- Patients with below eighteen years of age
- Patients presenting with severe acne-vulgaris,
- Pre-existing systemic disease necessitating long-term medications, genetic and endocrinal disorders,
- subjects with known history or present condition of allergic response to any cosmetic/herbal products, toiletries or its components or ingredients in the test products
- Pregnant and lactating women.
- Patients not willing to give written informed consent.

Himalaya™
WELLNESS SINCE 1930

METHODOLOGY

The present clinical study was an open study conducted at the department of Dermatology, Mandya Institute Of Medical Sciences, Mandya between June 2009 to April 2010. Fifty subjects aged more than 18 years suffering from mild to moderate acne vulgaris and who were willing to give informed written consent were included in the study. After obtaining informed consent baseline history was obtained which include personal data, a description of symptoms and details of past medical history, family history of acne, history of possible exacerbating factor/s, etc. Thereafter all patients underwent a clinical examination and thorough skin examination. The grading of acne vulgaris was as follows:

Grade I: Mild acne with only papules;

Grade II: Moderate acne with papules and comedones;

Grade III: Severe acne with papules and pustules;

Grade IV: Very severe acne with papules, pustules and cysts.

Patients were treated with Neem caplet at a dose of 1 caplet once daily for a period of 4 weeks. Patients were instructed not to use any other medication for acne. The response to therapy was evaluated at intervals of two weeks upto the four weeks by calculating the ALS and the efficacy was determined by the percentage reduction in the ALS at the end of four weeks of treatment. Improvement in the form of reduction in the ALS was graded.

GRADING OF ALS WAS AS FOLLOWS

GRADE	% REDUCTION IN ALS
0	No reduction in ALS.
1	< 25% reduction in ALS.
2	25-49% reduction in ALS.
3	50-74% reduction in ALS
4	> 75% reduction in ALS.

During each follow-up visit, local skin examination was done and observations were recorded in the case report form. In addition, patients were also evaluated for control of local inflammation (erythema and telangiectesia), new comedone (black and white) formation, relief of pruritus and pain in inflamed acne lesions, soothing and moisturizing effects and healing without hyperpigmentation or scarring were also considered for the overall response to the treatment. In case any adverse effects were reported, or observed by the subjects were recorded with information about severity, date of onset, duration and action taken regarding the study drug. Relation of adverse events to study medication was predefined as *"Unrelated"* (a reaction that does not follow a reasonable temporal sequence from the administration of the drug), *"Possible"* (follows a known response pattern to the suspected drug, but could have been produced by the subject's clinical state or other modes of therapy administered to the subject), and *"Probable"* (follows a known response pattern to the suspected drug that could not be reasonably explained by the known characteristics of the subject's clinical state).

Subjects were allowed to voluntarily withdraw from the study, if they had experienced serious discomfort during the study or sustained serious clinical events requiring specific treatment. For subjects withdrawing from the study, efforts were made to ascertain the reason for dropout. Non-compliance (defined as failure to take less than 80% of the medication) was not regarded as treatment failure, and reasons for non-compliance were noted.

STATISTICAL ANALYSIS

The values are expressed as Mean ± SD. Statistical analysis was carried out using Fisher's Exact Test using GraphPad Prism, Version 4.03 for windows, Graphpad Software, San Diego, California, USA. for presence or absence of various signs and symptoms. Repeated measures of ANOVA followed by Dunnett's Multiple Comparison Posthoc Test were used for the analysis clinical parameters.

RESULTS

The demographic details of both the groups Neem caplet and placebo namely are listed in table 1. The mean age of the subjects were 35.68± 09.34 years and mean weight 55.60 ± 11.80 kgs, 18 males and 32 females included in the study and the mean duration of acne was 1.8 ± 0.87 years.

All subjects completed the study as planned. At the end of 2 weeks of treatment with neem caplet, 16 cases reported no reduction in ALS score, whereas 20 cases showed 0-25% reduction in ALS score, 10 cases showed 25-49% reduction in acne lesion score and 4 cases showed 50-74% reduction in acne lesion score. With continued treatment with neem caplet, at the end of 4 weeks of treatment, 8 cases showed more than 75% reduction in acne lesion score, 16 cases showed 50-74% reduction in acne lesion score, 10 cases showed 25-49% reduction in acne lesion score, 12 cases showed less than 25% reduction in acne lesion score and in 04 cases there was no reduction in the ALS score.

Table 1

DEMOGRAPHIC DATA OF PATIENTS ON ENTRY (n=50)

PARAMETERS	NEEM CAPLET
Age in years (mean ± SD)	35.68± 09.34
Weight in Kg (mean ± SD)	55.60 ± 11.80
Sex ratio/ M:F	18:32
H/o smoking (No. of cases)	4
H/o alcohol consumption (No. of cases)	1
Diet (veg/mixed)	15/35
H/o acne-vulgaris (years)	1.8 ± 0.87

Additionally the cases who presented with white comedones, black comedones, hyperpigmentation and scarring due to acne also reduced. Also the recurrence of acne reduced significantly in 64% of the cases.

Good response was also noted in reduction in inflammation and pruritis. Majority of the patients experienced a soothing effect with neem caplet. There was no hypersensitivity or flaring of lesions seen during the treatment. None of the patients reported any adverse effects during the entire period of the trial. No worsening of acne infection was observed in any patient during the trial.

Adverse Effect: Not reported.

Drop outs: Nil.

Table 2

EFFECT OF NEEM CAPLET ON ACNE LESION SCORE

ACNE LESION SCORE	WEEK 2	WEEK 4
	Week 2	Week 2
0 (No reduction in acne lesion score)	16	04
1 (< 25% reduction in acne lesion score)	20	12
2 (25-49% reduction in acne lesion score)	10	10
3 (50-74% reduction in acne lesion score)	4	16
4 (> 75% reduction in acne lesion score)	-	8

DISCUSSION & CONCLUSION

Acne vulgaris can have a substantial impact on a patient's quality of life; there can be significant psychosocial consequences and it can leave permanent physical scarring. Early and effective acne treatment is important. Acne vulgaris is a very common skin disease experienced by nearly all adolescents and can have a substantial impact on quality of life. Even though acne may seem trivial, the psychosocial consequences can be profound and severe disease can leave permanent physical scarring. Early and effective acne treatment can prevent or minimise such complications. Identification of acne severity is determined by specific clinical features. The severity of acne plays a major role when it comes to determining the most appropriate acne treatment. Optimal use of medication involves understanding the specific clinical features and lesion types that identify the different degrees of acne severity. Various treatments are available for the management of acne as per the severity. The strategic management involves education regarding hygiene, topical monotherapy such as salicylic acid, retinoids or Benzoyl peroxide and topical antibiotic.

Results of the present study with Neem caplet showed that significant reduction in Acne lesion score by 2nd week of treatment which further improved with continued treatment to 4 weeks. In addition other symptoms of acne like White and black comedones, inflammation and pruritis also significantly reduced. None of the patients reported any adverse effects during the entire period of the trial. No worsening of acne infection was observed in any patient during the trial. It may be concluded that Neem caplet is clinically effective and safe in treatment of mild to moderate acne vulgaris.