



ORIGINAL RESEARCH PAPER

Dermatology

A COMPARATIVE STUDY OF THE EFFICACY AND SAFETY OF 12 % GLYCOLIC ACID CREAM AND 10% AZELAIC ACID CREAM IN THE TREATMENT OF POST ACNE HYPERPIGMENTATION.

KEY WORDS: post inflammatory hyperpigmentation, azelaic acid, glycolic acid

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ABSTRACT Acne vulgaris is a chronic inflammatory disorder of the pilosebaceous unit that is associated with significant psychosocial repercussions. Post inflammatory hyperpigmentation is a most common complication seen after post acne. Therapeutic goal of treatment include promoting degradation of melanosomes and inhibiting their formation. Patient treated with Azelaic acid / Glycolic acid experienced of significant greater reduction in number of inflammatory lesions. This study focuses on the comparison of efficacy of 12% Glycolic acid and 10% Azelaic acid in treating post acne hyperpigmentation.

INTRODUCTION:

Acne vulgaris is most common condition encountered in dermatology practice. Therapeutic goals include promoting degradation of melanosomes and inhibiting their formation. Disorders of hyperpigmentation are a challenge to treat especially in patients with darker skin, considering the propensity to hyperpigment, post any inflammation. The challenge is therefore to find an agent to reduce the hyper pigmentation without causing undesirable lightening of surrounding normal skin.⁽¹⁾ Acne even in mild form can have a lasting effect on the mental health of the patient causing anxiety & depression. Lately literature has begun to recognize that race and ethnicity play a vital part in the successful management of acne vulgaris, however current evidence suggests that key differences exist in relation to post acne sequelae.⁽²⁾ PIH results from overproduction of melanin or an irregular dispersion of pigment after cutaneous inflammation. When limited to the epidermis there is an increase in the production and transfer of melanin to surrounding keratinocytes, the rise in melanin activity being stimulated by the release of cytokines, pro inflammatory mediators and reactive oxygen species⁽³⁾

AIM AND OBJECTIVES:

To compare the efficacy and safety of 12% glycolic acid cream and 10% Azelaic acid cream in the treatment of post acne Hyperpigmentation.

MATERIALS AND METHODS:

This prospective study was conducted in department of dermatology, venereology and leprosy, Dr P.D.M.C. Amravati during Feb 2021 to May 2021. Total 40 patients were included in this study and we divided patients into 2 groups (group A and group B) As 20 patients in each group.

Group A patients received 12 % glycolic acid cream and Group B patients received 10 % Azelaic acid cream. We advised them to apply these creams topically once daily at night and wash their face next morning. All patients were advised to apply physical sunscreen, Zinc oxide, SPF of 50 at morning. Pre treatment evaluation was done by taking detail history, examination and colour photographs.

Response to treatment was evaluated at 4, 8 and 12 weeks and comparison of the effect was done at the end of 12 weeks by using pre and post treatment photographs.

Inclusion criteria:

- 1) Patients in age group more than 18 yrs (both sexes)
- 2) Patients willing to participate in study.

Exclusion criteria:

- 1) Patients with active acne.
- 2) Patients who were pregnant
- 3) Patients with h/o keloid.
- 4) Patients who were allergic to synthetic cosmetics.

RESULT:

In this study out of 20 cases in each group, 5 male patients and 15 female patients received 12 % glycolic acid cream and 5 male and 15 female patients received 10 % azelaic acid cream. In patients who received Azelaic acid there was a significant decrease in visible hyperpigmentation from week 0 to week 12, moreover the change was visible in the first four weeks and then gradually decreased over the next eight weeks and In patients who received Glycolic acid there was no significant change in the first four weeks but changes began to show in the eighth week and by 12 weeks a visible decline was seen. At end of 12 weeks, result was compared and it was found that both hypopigmenting agents were equally effective in respective groups.

CONCLUSION:

12 % glycolic acid cream and 10% azelaic acid cream, both are equally effective. Side effect such as erythema and burning sensation can be seen with glycolic acid use and post treatment hyperpigmentation can be seen with azelaic acid use.

Group A (Glycolic acid 12%)

Images: Before and after 12 weeks of treatment



Fig. 1: clinical picture showing improvement in post acne hyperpigmentation with Glycolic acid 12% treatment.



Fig. 2: Image showing treatment response in patient with post acne hyperpigmentation on treatment with Glycolic acid 12%

Group B (Azelaic acid 10 %)

Images : Before and after 12 weeks of treatment



Fig. 3: Image showing response of 25 years old female patient of post acne hyperpigmentation after 12 weeks treatment of Azelaic acid 10%



Fig. 4: clinical picture showing effect of Azelaic acid 10% in post acne hyperpigmentation after 12 weeks of treatment.

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