



ORAL RESVERATROL AS AN ADJUVANT THERAPY IN THE TREATMENT OF MILD TO MODERATE ACNE VULGARIS: A PROSPECTIVE OBSERVATIONAL STUDY

Dermatology

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ABSTRACT

Background: Acne vulgaris is an inflammatory skin disease usually affecting individuals between 12 and 24 years of age. Many topical and systemic agents are used in the treatment of acne, based on the grade. Complementary and alternative medicine therapies like vitamin C, nicotinamide, zinc, resveratrol, curcumin, etc. are increasing in popularity in the treatment of acne and rosacea. Resveratrol is a natural ingredient that is most abundant in the skin of red grapes, blueberries, boiled peanuts, etc. Resveratrol has considerable anti-inflammatory, antioxidant, anti-aging, and anti-microbial properties. However, there is a paucity of data regarding the use of oral Resveratrol in the management of acne; hence, this study is undertaken. **Aim:** To study the effectiveness of oral resveratrol as an adjuvant therapy in patients with mild to moderate acne vulgaris. **Materials And Methods:** Forty-six patients diagnosed with mild or moderate acne vulgaris were sampled via consecutive sampling and assigned to two groups, those receiving a combination of topical 1% clindamycin plus 0.1% adapalene and oral resveratrol 50 mg (24) and those receiving topical 1% clindamycin plus 0.1% adapalene (22). Both groups were assessed at weeks 4, 8, and 12 by applying the global acne grading system, and side effects were noted. **Results And Conclusions:** Both groups showed remarkable responses at weeks 4, 8, and 12. However, the Resveratrol group showed an earlier response at weeks 4 and 8, with an early decrease in lesion counts. On intergroup comparison, no significant difference was found in terms of response rates at week 12. As a result of our findings, resveratrol appears to be effective as adjuvant therapy in the treatment of acne vulgaris. It has the advantage of better tolerability as compared to topical 1% Clindamycin plus 0.1% adapalene.

KEYWORDS

Resveratrol, acne vulgaris, adapalene, clindamycin

INTRODUCTION

Acne vulgaris is an inflammatory skin disease usually affecting individuals between 12 and 24 years of age.¹ Many topical and systemic agents are used in the treatment of acne, based on the grade.² Complementary and alternative medicine therapies like vitamin C, nicotinamide, zinc, resveratrol, curcumin, etc. are increasing in popularity in the treatment of acne and rosacea.³ Resveratrol is a natural ingredient that is most abundant in the skin of red grapes, blueberries, boiled peanuts, etc.⁴ It is a stilbenoid belonging to a group of phytoalexins that has considerable anti-inflammatory, antioxidant, anti-aging, and anti-microbial properties. However, there is a paucity of data regarding the use of oral Resveratrol in the management of acne; hence, this study is undertaken.

AIM:

To determine the effectiveness of oral resveratrol as an adjuvant therapy in the treatment of mild to moderate acne vulgaris.

METHODS:

It is a prospective observational study, approved by the institutional ethics committee (IEC).

The study was conducted in our Department of Dermatology OPD from July 2021 to December 2021.

Sample size: 49

At the baseline, sociodemographic details were obtained, a detailed history was taken, and a clinical examination was done.

Inclusion Criteria:

Patients with mild and moderate acne vulgaris between the ages of 13 and 40 were included in the study.

Exclusion Criteria:

Pregnant and lactating women were excluded. Patients were categorised as having mild or moderate acne based on the Global Acne Grading System.⁵

This system divided the face, chest, and back into six areas (the forehead, each cheek, the nose, the chin, the chest, and the back).

Each area was assigned a factor based on its surface area.

Each type of lesion is given a numeral depending on severity: no lesions = 0, comedones = 1, papules = 2, pustules = 3, and nodules = 4.

The score for each area is calculated using the following formula: local score = factor grade (0–4).

The sum of the local scores gives the global score (0–52).

A global score of 1–18 is considered mild; 19–30, moderate; 31–38, severe; and >39, very severe.⁶

In our study, we included mild and moderate cases, with a global score ranging from 1 to 30.

After obtaining informed consent from the study participants, patients meeting the fixed criteria were assigned to 2 groups: A and B.

Group A constituted 26 patients and received a combination of topical 1% clindamycin plus 0.1% adapalene along with oral Resveratrol 50 mg daily (26).

Group B constituted 23 patients and received only topical treatment with 1% clindamycin plus 0.1% adapalene.

Patients in both groups were assessed for response to therapy at 4, 8, and 12 weeks based on the improvement from the baseline in the scores of the Global Acne Grading System, and side effects were noted.

RESULTS:

The mean age of those in group A was 22.42 ± 5.21 years, while it was 24.59 ± 5.84 years in group B.

Males constituted 56.5% in the study.

Majority of study population were students (52.5%), office employees (37.5%) and agricultural and sales persons (20%).

67% of study population belonged to urban areas and rural population constituted 33%.

Table 1 Depicting The Response To Therapy In Both The Group

	Group	Mean $\pm$ S.D scores of GAGS	t value	P value
Baseline	Group A	20.58 $\pm$ 6.34	0.22	0.83
	Group B	20.18 $\pm$ 6.34		
Week 4	Group A	10.75 $\pm$ 4.07	0.64	0.05
	Group B	12.95 $\pm$ 3.98		
Week 8	Group A	5.21 $\pm$ 3.4	0.69	<0.0001
	Group B	9.77 $\pm$ 3.49		
Week 12	Group A	1.25 $\pm$ 1.75	0.02	0.04
	Group B	2.59 $\pm$ 2.45		



Figure 1: Response To Therapy In Group A And Group B.

Response to therapy is assessed at 4, 8 and 12 weeks in both the groups. Overall both groups showed good response at 12 weeks. However group A showed faster response at week 4 and week 8 with early decrease in lesional counts.

DISCUSSION

Resveratrol has shown to reduce inflammation via inhibition of prostaglandin production, COX-2 and NF- κ B activity.⁷ It has antimicrobial properties against *P. Acnes*.⁸ A study by Gabriella fabroccini et al. showed topical application of Resveratrol resulted in a statistically significant decrease of acne lesions.⁹ The response to therapy at week 8 was good in group A when compared to group B with a p value <0.0001 which was statistically significant. There were milder side effects like peeling of skin and burning sensation in both the groups but not significant. Studies have shown similar kinds of results with adjuvant oral resveratrol 50 mg and topical 1% clindamycin plus 0.1% adapalene alone in the context of improvement of acne vulgaris.^{2,9} Resveratrol emerged as an efficacious agent for the treatment of acne vulgaris and was well-tolerated with no adverse effects.

Limitations:

Sample size is small. Because it is not a blinded study possibility of observer bias is there.

CONCLUSION

From our study we conclude that Oral Resveratrol helps in faster resolution of acne lesions when given along with the standard combination therapy.

However a detailed study with a larger sample size helps in better assessment and confirmation of our results.

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