

# Study on Efficacy of Oral Isotretinoin in Treatment of 62 Cases of Acne Vulgaris

Dr Mohammed Faizal A<sup>1</sup>, Dr Jassim Abdul Rahim<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Dermatology, Travancore Medical College, N.H bypass road, Umayanalloor P.O, Kollam 691581

<sup>2</sup>Assistant Professor, Department of Dermatology, Travancore Medical College, N.H bypass road, Umayanalloor P.O, Kollam 691581

**Abstract:** *Acne a disorder of sebaceous glands is one of the common reasons for which medical help is sought for cosmetic reason. Low dose isotretinoin treatment can be given in such cases. In our study 62 patients with grade II, grade III and grade IV acne vulgaris were identified and the study was conducted. The response to low dose isotretinoin (0.5mg/kg/day) treatment at 2<sup>nd</sup> month, 4<sup>th</sup> month and 6<sup>th</sup> month were noted. Out of total 62 cases, 26 cases showed remission. 10 cases were grade II, 9 cases were grade III and 7 cases grade IV.*

**Keywords:** Acne, low dose, isotretinoin, remission, grading

## 1. Introduction

In May 1982 Food and Drug Administration (FDA) of United States of America approved Isotretinoin for the treatment of severe nodular acne in oral formulation. Isotretinoin chemically is 13-cis-retinoic acid a modified vitamin A. [1]

Ever since its introduction it has become a wonder drug in acne treatment. Off late there are reports of teratogenicity due to its use but its benefits have markedly ousted all other suspicious side effects. [2]

Acne a disorder of sebaceous glands is one of the most common reasons for which medical help is sought for cosmetic causes especially by females. It has a complex pathophysiology and multifactorial in origin. The pathophysiology of acne involves:

- Hyperplasia of the sebaceous gland producing sebum.
- Shedding of the epithelial lining of the gland.
- Propionibacterium acnes proliferation.
- Inflammation (clinical/subclinical) [3]

Acne vulgaris can be graded as follows [4]

- Grade 1: Comedones, occasional papules
- Grade 2: Papules, comedones, few pustules.
- Grade 3: Predominant pustules, nodules, abscesses.
- Grade 4: Mainly cysts, abscesses, widespread scarring

There are a lot of modalities of treatment available in the market for treatment of acne but unlike all other modalities of treatment isotretinoin has an action of much wider spectrum.

Isotretinoin suppresses the production of sebum, prevents comedone formation and also has potent anti-inflammatory action as well. Altering the sebaceous gland function by reducing the production of sebum and prevention of comedone formation by suppressing proliferation of epithelial lining are major steps in formation of acne. It also has some systemic action also and the exact mechanism of its action is completely not elucidated yet. [3, 5]

Patient selection: isotretinoin has undoubtedly taken the treatment of acne by a storm. It has been successfully used in all treatment of all kinds of acne where it has shown complete remission or almost complete remission [5]. However due to its suspected other systemic effects on long term use and its potency to induce malignancy its use has been put to a check. It is now used to treat severe nodular acne, acne refractory to other modalities of treatment, inflammatory acne and in such patients who are prone to scarring. However it is still used and available to use for all kinds of acne as it has improved the quality of life in many patients. Caution has to be exercised among females of child bearing age as isotretinoin has been banned during pregnancy due to its probable teratogenic effect. [2]

Muco cutaneous adverse effects like cheilitis, dryness, dry eyes, hair fall and folliculitis can be encountered with long term therapy.

Dosing duration and frequency: Current recommended dosage is 0.5mg/kg/day for the initial 4 weeks followed by 1mg/kg/day. A total cumulative isotretinoin dose of 120-150mg/kg has to be reached and the treatment is to be administered over 20 weeks subject to tolerance and other side effects. The USFDA has approved frequency of twice daily [6,7]. Isotretinoin has to be taken along with a high fat/high caloric meal [8]. Many patients may experience an initial flaring up of symptoms as the treatment is initiated.

Remission: isotretinoin treatment in patients for acne is known to induce prolonged or permanent remission when the total cumulative dose given is >120-150mg/kg. [3] Remission can also be seen due to regression of acne in its natural course during the treatment. In some cases there may be a need for follow-up course as acne can recur or due to inadequate treatment. [3, 9]

Here we have undertaken this study to review the efficacy of oral isotretinoin in treatment of acne.

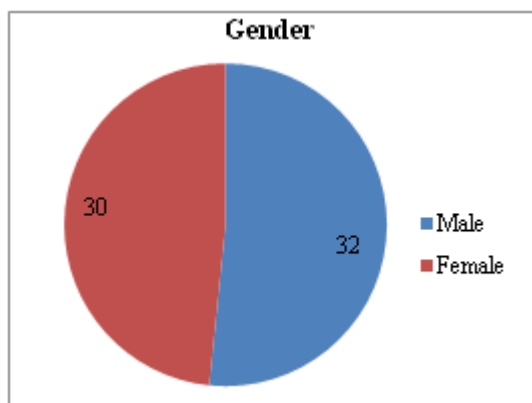
## 2. Materials and Methods

This study was done in the Department of Dermatology, Travancore Medical College, Kollam.

The study was done for a period of one year from January 2014 to January 2016.

62 patients with Acne vulgaris were identified and the study was conducted. Only patients with grade II, III and IV were selected. The response to low dose isotretinoin (0.5mg/kg/day) treatment at 2<sup>nd</sup> month, 4<sup>th</sup> month and 6<sup>th</sup> month were noted and reactions were recorded.

## 3. Results



**Figure 1:** Showing gender distribution

**Table 1:** Showing incidence of patients based on grade

Grading	Frequency
Grade II	12
Grade III	23
Grade IV	27

**Table 2:** Showing response to treatment and resolution

Grading	2 <sup>nd</sup> month	4 <sup>th</sup> month	6 <sup>th</sup> month	Total
Grade II	4	4	2	10
Grade III	1	3	5	9
Grade IV	0	2	5	7
Total	5	9	12	26

**Table 3:** Showing adverse effect of treatment

Adverse effect	Frequency
Cheilitis	37
Dry mouth	29
Dry eyes	8
Hair fall	1
Blurred vision	1
Folliculitis	-

## 4. Discussion

Out of the 62 cases studied, 32 were male and 30 female. 27 cases were grade IV, 23 cases were grade III and 12 cases were grade II.

After 2<sup>nd</sup> month of treatment, total 5 cases showed remission out of which 4 were grade II and 1 case was grade III. After 4<sup>th</sup> month of treatment, 9 more cases showed remission out of which 4 cases were grade II, 3 cases were grade III and 2

cases were grade IV. After 6<sup>th</sup> month, 12 more cases showed remission, out of which 2 cases were grade II, 5 cases were grade III and 5 cases were grade IV. Out of total 62 cases, 26 cases showed remission. 10 cases were grade II, 9 cases were grade III and 7 cases grade IV.

37 cases showed cheilitis as adverse effect, 29 cases showed dryness of mouth, 8 cases reported dry eyes and 1 case reported hair fall. 1 case reported blurring of vision.

Similar findings were seen in study conducted by Richa Gupta, Priyanka Singhal and Yogesh Marfatia. [10]

Post 6 months treatment, 11 cases showed relapse.

## 5. Conclusion

In this present study, it was noted that 42% of the study group had remission. The side effects were also not significant. Hence it can be safely said that low dose isotretinoin treatment can be given in acne vulgaris.

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