

## Efficacy of Intermittent Isotretinoin in Moderate Acne Vulgaris

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**Key Words:** Acne vulgaris, isotretinoin, intermittent treatment

### Abstract

**Background:** Isotretinoin is the only drug that affects almost all factors in acne pathogenesis. Recently, its use for the treatment of chronic mild or moderate acne unresponsive to long-term antibiotic therapy, and with a tendency to cause scarring and lead to negative psychological effects, has become popular. The aim of the study was to investigate the effectiveness of intermittent isotretinoin treatment in moderate acne.

**Material and Methods:** Thirty-two patients with moderate acne localized on the face were enrolled in the study. The treatment regimen consisted of isotretinoin, 0.5-0.75 mg/kg per day, applied first 10 days of each month for 6 months, according to the acne grade and number of inflammatory lesions.

**Results:** Thirty (93.7%) of the 32 patients completed the 6-month therapy. At the end of the treatment complete improvement was observed in 23 patients (76.6%) out of 30. All adverse effects were mild and discontinuation of the treatment was not necessary.

**Conclusion:** Intermittent isotretinoin treatment was found to be a safe and effective choice for patients with moderate acne.

### Introduction

Acne vulgaris is a chronic inflammatory disease of pilosebaceous unite affecting adolescents and young adults. Increased sebum secretion, abnormal follicular keratinisation, microbial colonisation and inflammation are considered as possible etiological factors [1]. Isotretinoin is the sole systemic product to be used in acne vulgaris since it inhibits all related etiological factors [2, 3]. Isotretinoin is indicated in acne vulgaris cases unresponsive to conventional treatments and has a ten-

dency to form scars [2, 4, 5]. In some cases, isotretinoin is not well tolerated due to its side effects.

This study aims to evaluate the efficacy and safety of isotretinoin treatment in moderate acne vulgaris cases.

### Materials and Methods

Total of 32 patients with moderate acne vulgaris were included in the study. The age, weight, duration of the disease, and previous treatments were

recorded prior to the study. Leeds grading scale [5] was used for acne grading. Our patients' grades were between 1 and 1.5 Leeds grading score, thus were considered as moderate acne vulgaris cases. Patients received isotretinoin (Roaccutane®, Roche, Basel, Switzerland), 0.5-0.75 mg/kg/day, during the first 10 days of each month for 6 months. They underwent monthly examination with respect to clinical improvement, acne grades and side effects.

Liver function tests (ALT, AST, GGT, ALP) and lipid profile (total cholesterol and triglyceride) were realized before treatment and at monthly follow-ups. Pregnancy test was taken by female patients and patients were advised to use birth control methods during treatment and for 3 months after treatment.

**Results**

Totals of 32 patients, 18 females (56.25%) and 14 males (43.75%), were included in our study. Mean age was 20.4±4.5. Thirty patients (93.75%) out of 32 completed the 6-month study. Cumulative dose of isotretinoin was 42.65±5.28 mg/kg. Clinical improvement was detected in 23 patients (76.6%) out of 30 at the end of the 6-month treatment. Three patients (10%) exhibited partial improvement. No improvement was observed in 4 patients (13.4%) at the end of the 6-month treatment. No side effect leading to the discontinuance of the treatment was recorded. Side effects observed during the study were showed in table (Table 1).

**Discussion**

Isotretinoin is indicated in treatment-resistant, nodular and nodulocystic acne treatment. It is the sole agent affecting all etiological factors of acne [2, 3]. It causes a decrease in the diameter of sebaceous glands and sebum production by 90% and therefore it is considered to be the sole sebostatic agent [6, 7]. In addition, it prevents comedo for-

mation, decreases the colonization of *P. acnes* and exhibits anti-inflammatory action [2, 3, 8]. Antibiotics are the first choice of treatment in moderate acne cases. Long-term antibiotic treatment causes growth of resistant bacteria in the skin of patients with acne vulgaris [9]. Scar formation is observed due to late onset of the action of conventional treatments leading to slow elimination of inflammation [10]. Scar formation was reported to cause social phobia, depression, anxiety, tendency to suicide [11, 12, 13]. Isotretinoin decreases the rate of scar formation due to its early action.

The isotretinoin treatment is to be initiated at the dose of 0.5-1 mg/kg/day and the cumulative dose of 120-150 mg/kg is to be attained during the 4-6 month treatment in acne vulgaris cases [14]. A recurrence is observed in 20% of patients at the end of the 4-6 month treatment and therefore a second isotretinoin treatment cycle recommended [2, 15, 16].

The intermittent isotretinoin treatment is indicated in mild and moderate acne vulgaris cases. Goulden et al administered intermittent isotretinoin, 0.5 mg/kg/day, in 80 patients with moderate acne vulgaris unresponsive to conventional treatments for 1 week every 4 weeks over 6 months period [17]. They reported that total acne score and the number of lesions were significantly decreased, treatment was well tolerated and no side affect besides mild cheilitis was observed in 68 patients (88%) out of 75 patients, who completed the treatment [17].

Kaymak and İlter administered intermittent isotretinoin, 0.5-0.75 mg/kg day, for 1 week every 4 weeks over a 6 month period and reported that complete remission was attained in 34 patients (82.9%) out of 41 patients, who completed the treatment and that no side effect leading to the discontinuance of the treatment occurred [18].

In our study, intermittent isotretinoin was applied, 0.5-0.75 mg/kg/day, in the first 10 days of each month during 6-month period in 32 patients with moderate acne vulgaris. Total remission in 23 patients (76.6%) and partial remission in 3 patients (10%) was attained out of 30 patients completing the study while no remission was observed in 4 patients (13.4%). No side effect leading to the

**Table 1.** Side Effects Observed During Intermittent Isotretinoin Treatment

Side Effect	Number of Patients	Percentage
Cheilitis	30	100
Acne activation	24	80
Dry skin	8	26.4
Myalgia	3	10
Headache	1	3.3
Nose bleeding	1	3.3

discontinuance of the treatment was recorded.

In the light of these findings, the intermittent isotretinoin treatment was found to be effective and safe in patients with moderate acne vulgaris unresponsive to conventional treatments. However, patients are to be closely monitored for the possible occurrence of recurrence since total cumulative dose recommended in these patients was not attained.

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