
Treatment of Moderate Acne Vulgaris with 20 mg Isotretinoin/Day in Iraqi Patients

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Abstract

Background: The efficacy of isotretinoin at 0.5-1 mg/kg per day in the treatment of acne is well established and considered safe, although it is sometimes not easily tolerated because of its side effects.

Objective: To determine the effect of treatment of moderate acne with a lowest dose of isotretinoin for a shorter period than the standard higher dose.

Patients & Methods: Open label therapeutic study. A total of 34 patients with moderate papulopustular acne were examined in the Department of Dermatology and Venereology, Ramadi Teaching Hospital, Anbar, Iraq from July 2007 to June 2008. Detailed history and clinical examination were performed for all patients, and a thorough laboratory tests were done before and after therapy. Patients were treated with a dosage of 20 mg/ day of isotretinoin for four months. And evaluation was done at each month. Then treatment was stopped and Patients were followed up every two months for another 4 months regarding both clinical and laboratory findings.

Results: Thirty patients completed the study. Four dropped out for unknown reasons. There were 24 males and 6 females with male to female ratio of 4:1. Their age ranged between 15 -27 (20.3 ± 3.7) years. Complete improvement was achieved in 28(93.5%) patients at the end of two months. Within four months there were two (6.5%) relapses. The most common side effects were mild cheilitis in all patients beginning with the first week of treatment, Mild xerosis in 20(66.5%) patients and epistaxis in 4(13%) patients. No increase in liver enzymes, serum triglyceride or serum cholesterol.

Conclusion: Acne vulgaris can be treated with four months regimen of isotretinoin 20 mg once daily with lower cost and less severe side effects than standard higher doses.

Keyword: Isotretinoin, Moderate acne, Iraqi patients

Introduction:

Acne is a disorder of the pilosebaceous apparatus, peaking in adolescence, and characterized by comedones, papules, pustules, cysts and scars.

There are many drugs and preparations used in the treatment of acne vulgaris recently in Iraq, tea lotion was used as topical remedy.^[1, 2]

Retinoids are naturally occurring and synthetic compounds that possess functional properties of vitamin A.^[3] Retinoids may affect cellular growth and differentiation, immunomodulation, tumor promotion and malignant potential of cells.^[4, 5]

The use of isotretinoin is usually limited to the more severe cases of nodulocystic acne, but in recent years the drug is being increasingly prescribed in moderate cases of acne that are unresponsive to conventional therapy. In both moderate and severe cases, isotretinoin is known to effectively reduce scarring and psychological disease.^[6]

The standard recommended dose of isotretinoin is 0.5 to 1 mg/kg per day for four to eight months, reaching accumulative dose of 120 mg/kg.^[6, 7] This regimen is still widely used and usually produces excellent results, but it causes many side effects that are usually dose dependent.

Nowadays, it is common practice in some areas to administer a low-dose regimen for less severe cases of acne. Kligman suggested that a lower dosage would be of benefit in acne treatment.^[7]

The aim of this study is to assess the effectiveness of smallest dose of isotretinoin in the treatment of moderate acne with a shorter period.

Methods:

This is an open label therapeutic study. A total of thirty four patients with moderate papulopustular acne were seen and studied in the Department of Dermatology and Venereology, Ramadi Teaching Hospital, Anbar, Iraq from July 2007 to June 2008, they were observed and evaluated clinically and a thorough laboratory tests studied. Married women were excluded. We obtained verbal consent after a full explanation of the nature of the disease and the treatment.

This study only included patients with moderate acne, based on the lesions count approximation,⁽⁸⁾ in which the count of pustules ranged between 20-40, and the count of papules ranged between 10-30, with or without nodules. Comedonal acne was included.

A detailed history was taken regarding the age of patient, residence, sex, weight and marital status (married females were excluded). The onset and duration of complaint, phone number, aggravating factors regarding stress, food, sun and seasonal variation, also the impact of the disease on patient. Patients were treated with a dosage of 20 mg per day of isotretinoin (Retane UC. No 98/2002 Aleppo – Syria).

Evaluation was done at each month and each patient was assessed by the same physician for

four months then at two monthly intervals later on for another four months post therapy.

The laboratory tests included liver function test and lipid profiles (cholesterol and triglycerides) at the beginning of treatment and then each month for 4 months period.

A good result was defined as complete or almost complete remission of acne lesions. A failure was defined in those who showed no improvement within 2 months course, requiring subsequent increases in isotretinoin dosage or additional treatment. A relapse was defined as the emergence of new lesions in treated patients within the four month follow up period.

Results:

Thirty patients completed the study and four dropped out for unknown reasons. There were 24 males and 6 females with male to female ratio of 4:1. Their age ranged between 15-27 (20.3 ± 3.7)

years. Their weight ranged between 50-75 kilograms with mean $\pm$ SD of 64.25 ± 15.2 kilograms. Disease duration ranged between (5-60 months) with mean $\pm$ SD of 20.45 ± 14 months.

Papulopustular acne was present in all of the patients and 10 patients (33%) had a few nodules.

In sixteen patients (53%) their disease was aggravated by sun light, while 10 (33%) patients were aggravated by spicy food. Ten (33%) patients had disfigurement, while nine (20%) patients have psychological impact.

None of our patients had an abnormality in serum triglycerides level, serum cholesterol, liver function and renal function.

At the end of first month 19 (63.5%) patients showed good improvement with complete disappearance of papules and pustules and 7 (23%) patients showed complete healing of nodules (**table-1**).

Table-1 Shows the response of moderate acne to 20mg isotretinoin per a day n=30

Time of response	Good result		Failure Relapses
	No papules & pustules	No nodules	
First month	19(63.5%)	7(23%)	2(6.5%)
Second month	9(30%)	3(10%)	
3rd& 4th month	--	--	
Follow up months			2(6.5%)

months. During this period, 2 (6.5%) patients relapsed with the development of new lesions. (**Table-2**)

The most common side effects were mild cheilitis in all patients beginning with the first week of treatment. Mild xerosis in 20 (66.5%) patients and epistaxis in 4 (13%) patients. Depression and other psychological side effects were not seen in this study

At the end of second month another 9 (30%) patients showed good improvement with complete disappearance of papules and pustules, and 3 (10%) patients of them had nodules also showed complete cure. Two (6.5%) patients failed this low dose regimen, so changes had to be made in their therapy (table-2).

At the end of four months treatment course, the drug was stopped. The 28 (93.5%) patients who had complete response were followed for another 4

Table-2 Shows the side effects to systemic 20mg isotretinoin per a day n=30

	No.	%
Mild cheilitis	30	100
Mild xerosis	20	66.5
Epistaxis	4	13

Discussion:

Isotretinoin affects all major etiologic factors of acne.^(4, 5) It reduces sebum excretion, follicular keratinization, and ductal and surface bacterial growth. The severity of the side effects of isotretinoin is proportional to the daily dose, so the treatment is usually started with 0.5mg/kg a day and increased to 1mg/kg a day.^[8]

A low dose regimen of 20 mg daily showed a good result in (93.5%) of our patients. This is similar to that reported in the literature in patients with

moderate acne using the standard dosage of 0.5 – 1 mg/kg/day.^[9, 10]

Because of the side-effects and the high cost of isotretinoin, we elected to study a low dose protocol. The present study showed that lower doses of isotretinoin are well-tolerated with milder side effects and less cost as compared with previous studies employing higher doses of this drug.^[11]

Our patients showed the mucocutaneous changes like cheilitis, mild xerosis and/or epistaxis are similar to that reported in previous studies with

small dose.^[10] The side-effects are similar to mild clinical finding in high vitamin A intake, because isotretinoin is a vitamin A analogue⁽¹²⁾, while providing patients the tremendous benefits that the drug offers. In fact, the absence of cheilitis should raise the suspicion of noncompliance and may explain isotretinoin failure.^[11]

The low dose protocol which our patients followed for four months in the present study did not cause changes in serum triglycerides level, serum cholesterol, or liver function as has been observed in previous studies.^[10, 11]

A few other studies looked at the low daily dose regimen of isotretinoin, regardless the patient's age or weight for longer durations of treatment and showed complete response in 96% of cases.^[9-10] This is similar to the present study with (93.5%) of cases showing complete remission within a shorter period.

In conclusion, patients with moderate acne can be successfully treated with a four month regimen of isotretinoin 20mg once daily with lower cost and less severe side effects than experienced with the standard higher doses usually employed.

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