

The effect of isotretinoin on depression and anxiety in patients with acne vulgaris: A prospective study

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Abstract

Aim: The aim of this study was to evaluate the effect of isotretinoin on depression and anxiety.

Material and Methods: Beck depression and Beck anxiety scales were performed by the clinician before the initiation of isotretinoin therapy. At follow-up, 0.5 mg/kg/day isotretinoin was administered to the patients. In the third month of the treatment, 39 patients were reevaluated with the same scales.

Results: There was no statistically significant difference in pre-treatment (11.38±12.48) vs. post-treatment (10.48±9.77) change in Beck anxiety scale points. Similarly, although there was a decrease in the Beck depression scale scores in the pre-treatment (10.05±9.02) and post-treatment (8.74±9.45) scores, no significant difference was found. Although the decrease in scores was not statistically significant, the decrease in both depression and anxiety scores after treatment showed a statistically significant correlation in itself ($p<0.01$).

Conclusions: As a result, in this study, we determined that isotretinoin treatment does not reveal any psychiatric symptoms and the current anxiety decreases depressive symptoms. For more clear findings, screening of the side effect profile with extensive and multicentre studies will contribute to the literature.

Keywords: Isotretinoin; depression; anxiety; acne vulgaris.

INTRODUCTION

Acne is a common skin disorder that disrupts young population's social life, urging them to seek treatment. Although the incidence in the population was found to be different in the studies, the age range was observed to be as high as 85% (1). Peak age of acne vulgaris is known to be between 15-18 years. Environmental factors as well as genetics have been reported to affect acne, etiopathogenesis of which cannot be fully established (2).

Common conditions that accompany acne include psychiatric disorders such as adjustment disorders and depression. Acne needs to be treated for these conditions to disappear. Of the available therapies, systemic isotretinoin is the most effective treatment method especially in types of acne that do not respond to other therapies (3). Although acne does not threaten life, it is one of the diseases which are the most affecting the patient's psychosocial status and quality of life. Shame,

depression, anxiety, irritability, social isolation, and suicide attempts are more frequent in these patients. All of these affect the quality of life in a negative way (4). However, although the most common side effects are dryness and cheilitis there are also studies suggesting that isotretinoin also causes psychiatric disorders or aggravates existing disorders (5,6). There is insufficient information about whether isotretinoin causes diseases such as depression or anxiety, and this issue is constantly questioned by patients. This study aims to investigate the relationship between isotretinoin and psychiatric disorders of anxiety and depression.

MATERIAL and METHODS

Ethical committee approval was obtained for the study. The study included 110 patients with acne vulgaris who applied to the dermatology outpatient clinic, had not used isotretinoin before and had no history of psychiatric disorder. Patients with a history of systemic disease, other

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drug use and who discontinued isotretinoin therapy were excluded. After patient consents had been obtained, Beck depression and Beck anxiety scales were performed by the clinician and patients were monitored. At follow-up, isotretinoin was administered to the patients at 0.5 mg/kg/day. Thirty-nine patients were reevaluated by the same scales in the third month of their treatment and the change in their scale points was monitored.

The categorical data obtained in the study were expressed as frequency and percentage values and numerical data as arithmetic mean \pm standard deviation. Data analysis was performed using SPSS 18.0 (Chicago Ill. USA). Categorical data were analyzed by chi-square test. When analysing quantitative data, T was applied in bilateral groups. P values less than 0.05 were considered statistically significant.

RESULTS

The age of 39 patients who completed the study was 20.94 ± 3.78 years. There were 33 females (84.6%) and 6 males (15.4%) (Table 1). The severity of acne was mild in 13 (33.3%), moderate in 19 (48.7%) and severe in 7 (17.9%) patients (Table 1).

There was no statistically significant difference in pre-treatment (11.38 ± 12.48) vs. post-treatment (10.48 ± 9.77) change in Beck anxiety scale points. Similarly, although there was a decrease in the Beck depression scale scores in the pre-treatment (10.05 ± 9.02) and post-treatment (8.74 ± 9.45) scores, no significant difference was found. Although the decrease in scores was not statistically significant, the decrease in both depression and anxiety scores after treatment showed a statistically significant correlation in itself ($p < 0.01$) (Table 2).

Gender	Number	Percentage (%)
Female	33	84.6
Male	6	15.4
Severity of acne		
Mild	13	33.4
Medium	19	48.7
Severe	7	17.9

	Pre-treatment	Post-treatment	p value	Correlation
Beck anxiety	11.38 ± 12.48	10.48 ± 9.77	> 0.05	< 0.01
Beck depression	10.05 ± 9.02	8.74 ± 9.45	> 0.05	

There was a statistically significant difference in the severity of pre-treatment vs. post-treatment anxiety as demonstrated by chi-square test results conducted to see the change in the severity of depression and anxiety symptoms in the test results ($p < 0.01$).

DISCUSSION

Psychiatric comorbidities that may occur in skin diseases may not need additional treatment and resolve with the treatment administered for the existing skin disease (7). Thus, treatment costs and unnecessary drug use can be prevented. The point to be considered here is the severity of the psychiatric disease and the risk of suicide (8). For this purpose, detailed history should be obtained to see whether there is an old or recent psychiatric diagnosis and the treatments initiated with the diagnosis, then the appropriate treatment should be selected. Among these treatment modalities, the relationship of isotretinoin with psychiatric disorders has been investigated many times but a common consensus has not been established (9,10).

High scores in the depression and anxiety scales in our study shows that patients who were not diagnosed with psychiatric disease and who applied for treatment for acne may require close monitoring and psychiatric consultation if necessary (11). High scale scores indicate the need for rapid and effective treatment of skin disorders in early adulthood where there is a high demand for social perception and acceptance.

From the data obtained as a result of our study, high pre-treatment anxiety scores can be explained by disruption to own-body perception due to skin disease and the associated increase in the anxiety level. In a study of 100 patients with acne vulgaris and 67 healthy controls by Afşar et al, statistically significant high anxiety was determined in the group with acne vulgaris (12). Another study of 255 patients with acne vulgaris by Lukaviciute et al. reported anxiety symptoms in 38.4% of the patients (13). These findings indicate that the high levels of anxiety before the treatment in our study are consistent with the literature.

Pre-treatment depression scale scores also decreased after treatment similar to anxiety scores and this decrease shows that treatment targeted for the cause can resolve additional mood disorders without the need for antidepressant treatment. A study of 34 patients with acne vulgaris by Kellett et al. reported decreased depression scores after isotretinoin treatment. (14) A study of 143 patients with acne vulgaris by Gnanaraj et al. detected significantly lower Hamilton depression scores in the control subjects at the third month of their treatment compared to baseline (15). The findings of our study are consistent with the literature.

According to a study conducted by Azaklı et al on 89 patients, there was no statistically significant difference between pre- and post-treatment anxiety and depression frequency and pre-treatment and post-treatment anxiety and depression scores (16).

It is noteworthy that only 39 of the 110 patients included in the study completed the study. The fact that the study is performed in a tertiary hospital, the absence of a referral chain in Turkey that allow every patient to admit to tertiary hospitals leads to very dense outpatient clinics and hence

the appointment difficulties (17). Another possibility is that the side effects of isotretinoin treatment such as dry mucous membranes may cause a perception that the condition is going to get worse, causing the patients to terminate the treatment voluntarily (18). Factors that limit the study are the fact that the study was intended to be performed with more patients and the test could not be performed after a longer period of time or at the end of the study.

CONCLUSION

As a result, in a prospective study of isotretinoin, where there is no common consensus regarding its effects on mood, we found that isotretinoin treatment did not result in any psychiatric symptoms and decrease the existing symptoms of anxiety and depression. Screening of the side effect profile with extensive and multicenter studies will contribute to the literature to obtain clearer results.

Competing interests: The authors declare that they have no competing interest.

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