Effects of Isotretinoin on Social Anxiety and Quality of Life in Patients with Acne Vulgaris: A Prospective Trial

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SUMMARY Social anxiety is common in acne patients and the effects of isotretinoin treatment on social anxiety symptoms have not yet been thoroughly investigated. The aim of the study was to assess the effects of isotretinoin treatment on the quality of life and social anxiety symptoms in a group of acne vulgaris patients. The Liebowitz Social Anxiety Scale (LSAS) and Short Form-36 (SF-36) were administered to 39 (24 female and 15 male) patients with acne vulgaris who accepted isotretinoin treatment and agreed to participate in the study. The severity of acne was evaluated using the Global Acne Grading System. Thirty patients completed 6-month treatment with oral isotretinoin at 0.5-1.0 mg/kg daily doses. Measurements were repeated at the end of 6 months. Acne significantly improved over time in the study group. The mean performance avoidance score in LSAS and mean pain and social functioning scores in SF-36 were significantly better at the end of isotretinoin treatment. In conclusion, isotretinoin treatment improves the quality of life and social anxiety symptoms in acne patients.

KEY WORDS: acne, isotretinoin, quality of life, social anxiety

INTRODUCTION

Acne is a common dermatologic disease reported in up to 85% of adolescents and young adults (1). Various psychiatric conditions including depression, anxiety, low self-esteem, feeling of social isolation, and high social anxiety have previously been postulated to be common in these patients (2-5). Quality of life (QoL) in these patients has also been shown to be deteriorated (1,6-9). Isotretinoin, a synthetic oral retinoid, is the most effective treatment for acne yet discovered (10). After its release to the market in 1982, many adverse psychiatric effects including depression and suicidal thoughts were related with its use in earlier studies (1,6,9,11). However, studies failed to demonstrate a convincing causal link between isotretinoin treatment and depression or suicide (9,11). Moreover, improvements of anxiety, depression and QoL in acne patients were attributed to the efficacy of isotretinoin treatment in some recent studies (1,12).

Besides depression, social anxiety symptoms are also known to be common in acne patients (13). It is generally related to the disfigured skin appearance of these patients. Although the impact of isotretinoin treatment on depression, suicidal thoughts and QoL were recently studied, to the best of our knowledge its impact on social anxiety levels that acne patients experience has not yet been thoroughly investigated. Thus,
we aimed to measure social anxiety and QoL levels in acne patients before and after isotretinoin treatment.

**PATIENTS AND METHODS**

**Sample**

Patients were recruited from dermatology outpatient clinic of the Silvan State Hospital between January and December 2010. Thirty-nine (24 female and 15 male) patients with acne vulgaris met our inclusion criteria and agreed to participate and gave their informed consent. Nine patients among them dropped out (1 for elevated lipids, 4 for intolerable adverse effects, and 4 failed to present for follow up visits). Hence, 30 patients completed the study.

The inclusion criteria were being over 15 years of age, being at least a primary school graduate, and not taking any medication. Exclusion criteria were previous use of isotretinoin, elevated liver function enzymes or serum lipids, pregnancy, any disfiguring facial condition other than acne vulgaris, physical disability, and any neurologic or medical disorder.

**Global Acne Grading System (GAGS)**

GAGS is a quantitative scoring system to assess acne severity. It was first developed by Doshi et al. in 1997 (14). The total severity score is derived from summation of six regional subscores. The regional factors were derived from consideration of surface area, distribution and density of pilosebaceous units. The severity was graded as mild if the score was 1-18, moderate with scores of 19-30, severe with scores of 31-38, and very severe if the score was more than 38 (14,15).

**Liebowitz Social Anxiety Scale (LSAS)**

LSAS is a questionnaire first developed by Liebowitz for assessing the severity of fear and avoidance in social interactions and performance situations. The questionnaire includes 24 items, 11 assessing social situations and 13 assessing performance situations. Administered by a clinician, the scale provides scores on 6 subscales, measuring the severity of fear in social situations, the severity of performance fear, the severity of social avoidance, the severity of performance avoidance, the severity of total fear, and the severity of total avoidance. The validity and reliability of the Turkish version of LSAS was previously demonstrated (16).

**Short Form-36 (SF-36)**

SF-36 is the most widely used self-report scale to measure health-related QoL. It successfully measures patients with medical or psychological disorders and healthy subjects as well. Positive and negative aspects of health can be assessed by it and it is accepted to be sensitive to small changes in disability status. It was first developed by Ware and Sherbourne in 1992. Higher scores reflect better QoL. The validity and reliability of the Turkish version of SF-36 was demonstrated by Kocyigit et al. in 1999 (17).

**Procedure**

Patients were followed up monthly and hemogram, liver function tests (AST, ALT), serum lipid profile, and ß-HCG levels (in female patients) were measured on each visit. Their treatment consisted of oral isotretinoin at 0.5-1.0 mg/kg daily doses for 6 months to reach a cumulative dose of 120 mg/kg. The severity of acne was assessed with GAGS before and after isotretinoin treatment. Similarly, LSAS and SF-36 were administered by a psychiatrist. During the interviews, the psychiatrist was blind to all medical records and GAGS score of the patients.

**Statistical analysis**

SPSS 11.5 software was used on statistical analysis. Measurements before and after isotretinoin treatment were compared with paired sample t test. All statistics are reported in two-tailed form. The level of statistical significance was set at P<0.05.

**RESULTS**

The mean age of 30 study patients (19 female and 11 male) with acne vulgaris was 22.6±4.3 (range: 15-31) years. Only two (6.7%) patients were married and the rest were single. The mean duration of education in the study population was 12.1±2.9 years and the mean duration of acne 69.6±38.3 (range: 12-120) months. The severity of acne in the study group as determined by GAGS score was 20.1±7.1, ranging between 10 and 32.

The mean GAGS, LSAS and SF-36 scores obtained both before and at the end of isotretinoin treatment are shown in Table 1. As seen from Table 1, the scores of performance avoidance in LSAS, pain and social functioning scores in SF-36 were significantly better at the end of isotretinoin treatment.

**DISCUSSION**

The results of the present study indicated that performance avoidance and social functioning were better at the end of isotretinoin treatment in acne patients. To our knowledge, this is the first study reported in the literature that shows an improvement in performance avoidance after isotretinoin treatment in acne patients. This result supports the suggestion of some previous studies that attribute higher levels...
of social anxiety symptoms to the severity of disease in acne patients (18). Additionally, social functioning, a dimension of QoL, of acne patients in the present study was found to have improved after isotretinoin treatment. QoL in acne patients has previously been investigated in some recent studies. In their study, Kaymak et al. found improvement of QoL after successful treatment of acne, especially in patients who underwent oral isotretinoin treatment (9). In another study conducted by McGrath et al., QoL in the physical and social domains was improved, while psychological and environmental QoL remained unchanged over time (1). In this study, consistent with our findings, the improvement in social QoL was greater in patients treated with oral isotretinoin.

One of the main limitations of the present study was the small sample size. Another limitation was the lack of a control group. A control group similar to the study group in terms of demographic features and acne severity would form a waiting list, which would provide further insight into our findings. However, leaving patients without any treatment for the study purposes would not be ethical.

**CONCLUSION**

Successful treatment with oral isotretinoin seems to provide significant improvement both in performance avoidance and social functioning of patients with acne diagnosis.

### References


On light, air and the sun! With Nivea cream; year 1936. (from the collection of Mr. Zlatko Puntijar)