

Effects of Isotretinoin Treatment on Dermatological Quality of Life and Anxiety/Depression in Patients with Severe Acne

ŞİDDETLİ AKNESİ OLAN HASTALARDA İSOTRETİNOİN TEDAVİSİNİN DERMATOLOJİ YAŞAM KALİTESİ VE ANKSİYETE/DEPRESYON ÜZERİNE ETKİSİ

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Summary

Objective: Quality of life in acne has recently been investigated with a combination of generic and dermatology-specific questionnaires and it has been reported that isotretinoin therapy provides improvement in both measures. The aim of this study was to investigate the level of anxiety and depression, and impairments in the quality of life and the effect of isotretinoin therapy on these parameters in patients with severe/very severe acne by using both generic and dermatology-specific questionnaires.

Material and Methods: Twenty patients with severe/very severe acne according to Global Acne Grading System and 38 age and sex matched healthy control subjects were enrolled in this study. The Hospital Anxiety Depression (HAD) Scale and Dermatology Life Quality Index (DLQI) were evaluated in the patient group before and after a treatment period of 16 weeks with isotretinoin (1 mg/ kg/day). Only HAD scale was evaluated in control subjects.

Results: Prior to isotretinoin treatment, the HAD anxiety and depression subscale scores of the patients (9±4.5 and 6.4±4.6, respectively) were significantly higher than those of the control subjects (5.5±2.4 and 3.9±2.2, respectively). Although significant improvement was observed in the DLQI in the patient group following treatment, there was no significant change between HAD subscale scores before and after treatment. There were no gender differences with respect to two measures before and after treatment.

Conclusions: Severe/very severe acne can lead to impairment in dermatologic quality of life and higher levels anxiety and depression. Although effective treatment with isotretinoin produced significant improvement in dermatological quality of life, it had no significant effect on anxiety and depression, at least immediately after treatment.

Key Words: Acne, quality of life, Anxiety, Depression, isotretinoin

T Klin Dermatoloji 2004, 14:75-79

Özet

Amaç: Son zamanlarda akne de yaşam kalitesinin değerlendirilmesinde dermatolojiye özgü ve genel sağlığa özgü testler birlikte kullanılmaktadır ve isotretinoin tedavisi ile her iki tip testlerde düzelme sağlandığı bildirilmiştir. Bu çalışmada, şiddetli/çok şiddetli aknesi olan hastalarda hem dermatolojiye özgü hem de genel sağlığa özgü testler kullanılarak, anksiyete/depresyon ve dermatolojik yaşam kalitesi ve isotretinoin tedavisinin bu parametreler üzerine etkisinin belirlenmesi amaçlandı.

Gereç ve Yöntemler: Global akne evreleme sistemine göre şiddetli/çok şiddetli aknesi olan 20 hasta ile yaş ve cins dağılımı uyumlu 38 sağlıklı birey çalışma kapsamına alındı. Hasta grubuna, 16 haftalık isotretinoin (1 mg/kg/gün) tedavisi öncesi ve sonrası Dermatoloji Yaşam Kalite İndeksi (DYKİ) ve Hastane Anksiyete Depresyon (HAD) ölçeği uygulandı. Kontrol grubuna ise sadece HAD ölçeği uygulandı.

Bulgular: İso tretinoin tedavisinden önce hastaların HAD ölçeği anksiyete ve depresyon skorları (sırasıyla 9±4.5 ve 6.4±4.6) kontrol grubuna göre (5.5±2.4 ve 3.9±2.2) anlamlı derecede daha yüksekti. Hasta grubunda, tedavi sonrasında DYKİ'de belirgin düzelme gözlenirken, tedavi öncesi ve sonrası HAD ölçeği skorlarında önemli bir değişiklik saptanmadı. Ayrıca her iki ölçek sonuçlarında, tedavi öncesi ve sonrasında cinsiyete göre farklılık saptanmadı.

Sonuç: Şiddetli/çok şiddetli akne dermatoloji yaşam kalitesinde bozulma ve yüksek düzeyde anksiyete ve depresyona neden olabilmektedir. Hastalığın isotretinoin ile etkin tedavisi, dermatolojik yaşam kalitesinde belirgin düzelme sağlarken, en azından tedaviden hemen sonraki erken dönemde, anksiyete ve depresyon üzerine belirgin bir etkisi yoktur.

Anahtar Kelimeler: Akne, Yaşam kalitesi, Anksiyete, Depresyon, Isotretinoin

T Klin J Dermatol 2004, 14:75-79

Previous studies have shown that acne can result in impairment in quality of life and lead to psychiatric problems such as lowered self-esteem, social phobia, anxiety and depression (1-7) and may even precipitate suicide (8). However, it is suggested that disability caused by acne can be largely reversed by effective treatment (4,6-7,9).

Recently, a combination of generic and dermatology-specific or disease specific questionnaires have been used in most studies investigating the quality of life in acne (1,3,6-7) and it is reported that dermatology specific measures are more sensitive and more responsive to change following treatment when compared with generic measures (6-7).

To our knowledge, although there are several studies investigating the effectiveness of isotretinoin therapy on quality of life in acne, no studies have examined this effect by using both generic and dermatology specific questionnaires in patients with particularly severe acne so far.

In this study, we investigated the level of anxiety and depression and impairments in the quality of life and the effect of isotretinoin therapy on these parameters in patients with severe/very severe acne by using both generic and dermatology-specific questionnaires.

Material and Methods

Twenty patients with severe (n=11) or very severe (n=9) acne according to Global Acne Grading System (GAGS) (10) and 38 healthy control subjects were enrolled in this study.

Isotretinoin (1 mg/kg/ day for 16 weeks) was given for treatment of acne in the patient group. The Hospital Anxiety and Depression (HAD) scale and Dermatology Life Quality Index (DLQI) were evaluated in the patients before and after treatment while only HAD scale was evaluated in the control subjects. All patients were interviewed by a psychiatrist before and at the end of the treatment period to determine presence of any psychiatric disorder.

Hospital Anxiety and Depression (HAD) Scale is a self-assessment scale with 14 items and

two subscales (one for depression and one for anxiety) and detects anxiety and depression in general medical out-patient samples (11). In this study, the Turkish version of the scale was used, which has been found to be valid and reliable in medically ill patients (12).

Dermatology Life Quality Index (DLQI) consists of 10 questions covering the aspects of life most commonly mentioned when 120 dermatology patients were asked how their skin disease affected them. Total scores can range from 0 to 30, with higher scores indicating greater disability (13). It has been used to measure and compare disability in different skin conditions.

Data were analyzed with a statistical package for computer. Sex distribution was evaluated by chi-square test; parametric variables were compared by t test; pre- and post-treatment values were compared by paired t test. Correlations were examined by Pearson's Correlation Analysis.

Results

Twenty patients with severe/very severe acne (11 women and 9 men) and 38 healthy subjects (19 women and 19 men) were enrolled in this study. The mean age of the subjects with acne was 21 ± 6 (mean \pm SD). The mean age of the women and men with acne were 22 ± 7 and 21 ± 4 years, respectively. The mean age of control subjects was 22 ± 3 . The mean age of women and men in the control group were 23 ± 3 and 21 ± 3 , respectively. There were no significant differences in mean age ($t = -0.678$, $df = 56$, $p = 0.5$) and sex distribution ($\chi^2 = 0.131$, $df = 1$, $p = 0.717$) between patients and control subjects. The mean GAGS score was 37.5 ± 4.6 in patients. The mean GAGS scores of the men (39 ± 4) and women (36.2 ± 4.8) were not significantly different ($t = -1.403$, $df = 18$, $p = 0.178$).

The HAD anxiety (HAD-A) and HAD depression (HAD-D) subscale scores of the patients were significantly higher than those of the controls (Table 1).

In the patient group, a positive correlation was observed between DLQI and HAD-A and HAD-D subscale scores before treatment ($r = 0.601$, $p = 0.005$ and $r = 0.707$, $p = 0.0001$, respectively). In other

Table 1. HAD-A and HAD-D subscale scores (mean \pm SD) of patients and control group

	Acne (n=20)	Control (n=38)	t test
HAD-A	9 \pm 4.5	5.5 \pm 2.4	p=0.0001
HAD-D	6.4 \pm 4.6	3.9 \pm 2.2	p=0.007

Table 2. DLQI and HAD subscale scores (mean \pm SD) of patients before treatment

	Women (n=11)	Men (n=9)	Overall (n=20)	t test (women-men)
DLQI	6.1 \pm 3.9	6.9 \pm 7.5	6.5 \pm 5.6	p=0.762
HAD-A	9.3 \pm 4.3	8.6 \pm 4.9	9 \pm 4.5	p=0.733
HAD-D	6.2 \pm 3.7	6.7 \pm 5.7	6.4 \pm 4.6	p=0.820

Table 3. Changes in outcome measures (mean \pm SD) before and after treatment in patients

	Before treatment	After treatment	Paired t test
GAGS	37.4 \pm 4.5	8.4 \pm 4.5	p=0.0001
DLQI	6.5 \pm 5.6	3.4 \pm 5.8	p=0.006
HAD-A	9 \pm 4.5	8.1 \pm 5.3	p=0.168
HAD-D	6.4 \pm 4.6	5.9 \pm 4.8	p=0.463

words, the higher the DLQI scores, the deeper the level of depression and anxiety. The DLQI and HAD scores of men and women in the patient group were not significantly different (Table 2).

Clinical acne severity scores (GAGS) was not correlated with DLQI and HAD subscale scores.

Twenty patients were reevaluated immediately after termination of isotretinoin therapy. In these patients, the mean GAGS score was found to be 37.4 \pm 4.5 before treatment, and 8.4 \pm 4.5 after treatment (t = 35.61, df=19, p=0.0001). A significant improvement was detected in both DLQI and GAGS scores after treatment, but there was no statistically significant difference between HAD subscale scores before and after treatment (Table 3).

Although some patients had some depressive and/or anxiety symptoms, none met DSM-IV-TR

diagnostic criteria (14) for any psychiatric disorder at interviews before and after isotretinoin treatment.

Discussion

Recent studies show that impairment of quality of life and psychosocial problems caused by acne are not correlated with clinical acne severity (3,4,7). However, there are some studies that reported increased anxiety in patients with severe or cystic acne (9,15,16). Klassen et al (7) have detected the incidence of anxiety/depression as 52.8 % in patients with relatively severe acne and Kellet et al (4) have observed clinically significant levels of anxiety (44%) and depression (18 %) in patients with chronic acne. In accordance with these reports, the results of our study revealed that the levels of anxiety and depression were increased in patients with severe/very severe acne. Aktan et al reported the prevalence of anxiety and depression as 24.7% and 13.3% respectively in the acne group, but no significant difference between acne and control groups was detected (17). However, most of the patients had mild to moderate acne in their study.

Although some studies reported that females with acne were more prone to be disabled than males (1,3-4,17) Klassen et al reported that anxiety and depression were not related with gender as in our study (7).

Disability caused by acne can be largely reversed by effective treatment with isotretinoin. Van der Meeren et al (16) reported reduction in anxiety a year after treatment with isotretinoin in severe acne and Rubinow et al (9) reported significant reductions in two measures of anxiety 4 months after treatment with isotretinoin in patients with cystic acne. Kellet et al reported that although treatment with isotretinoin produced a significant improvement across a wide variety of psychological functions such as self image, esteem, shame, interpersonal attractiveness, loss of control, obsessive skin-related rituals, the same beneficial effect was not observed on impaired emotional status of patients 4 months after treatment (4). Newton et al reported that emotional functioning showed no improvement after 4 months of isotretinoin ther-

apy, but significant improvement was observed in 1 year (6). In the present study, no significant improvement in anxiety and depression was observed after a treatment period of 16 weeks with isotretinoin.

In most studies, which assess psychosocial impact of acne, a combination of generic and dermatology-specific questionnaires have been used (1,3,6,7) and in studies conducted by Klassen and Newton, DLQI was found to be more responsive to change after treatment compared with generic measures (6,7). In our study, significant improvement was detected on DLQI, but no significant difference on HAD scale scores was detected after treatment. The presence of a positive correlation between DLQI and HAD scale scores suggest that anxiety and depression are closely related to acne. Therefore, improvement in anxiety and depression is expected along with clinical improvement in acne, but there was no significant improvement in HAD scale scores after treatment. This suggests that impaired emotional state may be more resistant to clinical improvement and/or improvement in emotional status may occur later as indicated in some previous studies (6,16). It is also postulated that only dermatological treatment is not adequate for the improvement of emotional status. Although there are some reports of several emotional disturbances such as depression and suicidal ideation in patients treated with isotretinoin (18), it has been stressed that additional studies were needed to determine whether isotretinoin was the cause of depression (19). As no statistically significant differences between HAD subscale scores before and after treatment were detected in our study, one may say that isotretinoin treatment has no effect on emotional status of patients.

In conclusion, severe/very severe acne can result in increased levels of anxiety and depression. Although isotretinoin therapy can provide significant improvement in dermatological quality of life, it has no significant effect on anxiety and depression, at least immediately after treatment. This must be considered when treating patients with severe/very severe acne and it must be kept

in mind that a combination of dermatological and psychiatric treatments may be needed to accelerate improvement in the impaired emotional status in these patients. We also suggest that a combination of dermatology-specific and generic measures should be used together when evaluating the quality of life in patients with acne.

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Geliş Tarihi: 30.09.2003

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