THE PSYCHOSOCIAL IMPACT OF ACNE AND ROSACEA

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ABSTRACT

Acne and rosacea cause significant psychological distress and impairment of psychosocial functioning for many patients. Feelings of embarrassment lead many individuals to withdraw from social situations, and reports of depression and body image problems are common. Most studies, although not all, have found that patients with acne report higher rates of emotional and psychological problems than similar individuals without acne. In addition, self-rated quality of life is worse when acne is accompanied by more severe psychological distress. Rosacea is triggered by foods, alcohol, hot beverages, and also may be exacerbated by psychological stress. Depression and anxiety also appear to be especially common among patients with rosacea. Some reports have suggested that patients who are treated with oral isotretinoin may have relatively high rates of depression or suicide, although other studies have failed to identify a clear relationship between isotretinoin use and depressive symptoms. It is possible that the psychological benefits of improvement in severe acne with isotretinoin offset the potential for an increased risk of depression. Several authors have suggested specific recommendations to improve the management of the psychosocial impact of acne and rosacea. Patient education about the psychological impact of these disorders and the appropriate use of prescription medications is especially important. Referral to a mental health specialist who is experienced in the management of chronic illness is often helpful for patients with acne or rosacea. (Adv Stud Nurs. 2005;3(7):239-243)

THE PSYCHOLOGICAL IMPACT OF ACNE

Jay, aged 15 years, comes to the office for a sports physical. He has extensive papules and pustules on his face and trunk. He seems sad, and he has a flat affect.

Does acne cause depression? Does depression increase acne severity? What is the best treatment for Jay, and does isotretinoin cause depression?

Acne is more than a cosmetic issue. In 1948, in the first published study that examined the psychological impact of acne, Sulzberger and Zaidens concluded, “There is no single disease which causes more psychic trauma, more maladjustment between parents and children, more general insecurity and feelings of inferiority, and greater sums of psychic suffering than does acne vulgaris.” More than half a century after this paper was published, documenting the psychological effects of acne remains a challenge. Koo evaluated the impact of acne by conducting face-to-face interviews with patients with acne; some of their comments about acne are shown in Table 1. In these interviews, patients with acne expressed feelings of torment, depression, and anger. Many patients described how
they had begun to withdraw socially due to low self-esteem, body-image problems, and embarrassment. Koo noted that the psychosocial effects of acne are, for many individuals with mild to moderate illness, the most significant form of morbidity of the disorder.²

Nine case-control surveys have examined the psychosocial impact of acne.³ In most of these studies, patients with acne tended to have higher rates of social, psychological, and emotional problems than those without acne. In addition, women with acne were found to be more embarrassed about their skin condition than men with acne,⁴ and older adults reported more effects of acne on quality of life than younger adults.⁵ However, these surveys are limited by relatively small sample sizes and the use of inconsistent methods to evaluate the psychosocial impact of acne, making it difficult to compare findings between studies.

Two relatively large cross-population surveys have evaluated the psychological impact of acne in the general population. Aktan et al examined 2657 high school students in Turkey.⁶ Of 615 students with acne, acne severity was graded using an acne rating scale, specifically the Global Acne Grading System. In addition, the Hospital Anxiety and Depression scale (HADS) was used to determine the prevalence of depression and anxiety for 50% of the subjects with acne (n = 308) and for a group of sex-matched control subjects (n = 308). Scores on the anxiety and depression scale were not significantly different between the individuals with acne and the control subjects. However, in the acne group anxiety and depression ratings were significantly higher for girls than for boys, even though ratings of acne severity did not differ between the 2 groups. There was no correlation between the severity of acne and the HADS scores. A smaller British study that included 317 adolescents (50% of these adolescents had acne, with 11% having moderate-to-severe acne) found that those with definite acne (≥12 lesions) had significantly higher levels of emotional and behavioral difficulties. In addition, adolescents with acne were approximately 2 times more likely than those without acne to score in the abnormal/borderline range of the Strengths and Difficulties Questionnaire, an age-appropriate validated measure of emotional distress.⁷

A more recent cross-population study conducted in Italy sought to determine the relationship between skin-related quality of life and psychiatric morbidity in patients with various skin conditions who attended dermatology outpatient clinics during a 2-week period.⁸ A total of 2136 patients completed the Skindex-29 rating scale of quality of life related to dermatologic conditions and the 12-item General Health Questionnaire (GHQ), which assesses psychological distress. The findings indicated that patients with acne and significant psychiatric morbidity (as defined by the GHQ) had higher scores on the Skindex-29 (indicating poorer perceived quality of life) than patients without psychiatric morbidity. The study investigators concluded that adequate treatment of psychological

### Table 1. Comments from Patients About the Impact of Their Acne

"I really felt that I was tormented all the time because I felt that people were always looking at me, and noticing my acne…I have tried everything on the market and nothing helped, so while I was growing up it was really hard. I got severely depressed and sometimes I wouldn’t go to school because I had a particularly large pimple…”

"I am mad that I inherited (acne) from (my mother)…I hate that the first thing people see when they look at me is bad skin; I really, really hate that…”

"Having acne has made me feel unattractive for most of my life. If you have a zit on your face, most of the time you’ll feel it’s 3 times as big as it really is, and you’ll think everyone sees your acne before they see anything else about your appearance…”

"I don’t look in mirrors. I comb my hair using a silhouette on the wall to show the outline…I have not looked at myself in the eyes for years…and that is a direct result of acne, the acne scarring…”

"It is really humiliating to feel like I have no control over my acne…I am 25 years old and to be acting this way is very frustrating…There are very negative connotations in our society concerning acne, so people get embarrassed…”

conditions in patients with dermatologic diseases may significantly improve their perceived quality of life. Another recent study examined the relationship between anger and acne. These investigators examined the effects of trait anger (a personality characteristic that is defined as a tendency to experience angry mood in many different situations) on acne severity, patient satisfaction, treatment adherence, and quality of life. They found that trait anger was only weakly related to the clinical severity of acne, but that it was strongly related to quality-of-life ratings and treatment satisfaction. The authors noted that acne may produce patient-rated quality-of-life impairments that are as bad as asthma, seizure disorders, diabetes, and arthritis.

In a review of the literature on the psychologic or psychiatric elements associated with dermatologic diseases, Koo et al noted that most of these “psychodermatologic” conditions can be classified into 4 categories (Table 2). Three of these categories, which they referred to as psychophysologic disorders, primary psychiatric disorders, and secondary psychiatric disorders, are associated with acne. The fourth category—cutaneous sensory disorders—are not related to acne. These relationships between psychological disorder and acne suggest that there may be physiological pathways by which psychologic stress exacerbates chronic skin inflammation, although there is little direct evidence for such a link at present.

**ACNE AND LIFESTYLE**

Many patients think that acne is related to certain lifestyle factors, especially chocolate consumption. However, controlled clinical studies have found that chocolate does not cause acne. Other researchers have suggested that acne may be a disease of westernized societies. In a study published in 2002, Cordain et al examined the rate of acne among the Kitavan people of the Trobriand Islands near Papua New Guinea and the Aché hunter-gatherers of Paraguay. There were no cases of acne among the 2 groups (1200 Kitavan subjects, 115 Aché subjects). The study investigators noted that Western foods are virtually nonexistent in the Kitavan diet, with almost no consumption of dairy products, alcohol, coffee, and tea, and negligible use of oils, margarine, cereals, sugar, and salt. The Aché diet consists mainly of wild, foraged foods and locally cultivated foods. Western foods obtained from external sources make up approximately 8% of the diet. Cordain et al concluded that the Kitavan and Aché diets, which consist of minimally processed plant and animal foods and almost no Western carbohydrates with high glycemic loads, may explain the absence of acne in the 2 populations.

**ROSAEA**

Matt is a 32-year-old man with persistent facial redness. He works as a sales associate and wonders if medical treatment can help him stop blushing during sales presentations. People have commented that he appears nervous during his presentations, and some people have wondered whether his red face means that he is a heavy drinker or has high blood pressure. Matt drinks coffee all day at work. His blood pressure is 120/70 mm Hg.

What might be triggering Matt’s red face? Will the flush-

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**Table 2. Classification of Psychodermatologic Conditions**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychophysologic disorders</td>
<td>Skin conditions exacerbated by emotional stress</td>
<td>Acne, atopic dermatitis, psoriasis, alopecia areata</td>
</tr>
<tr>
<td>Primary psychiatric disorders</td>
<td>No primary skin disease; skin manifestations are self-induced</td>
<td>Trichotillomania, delusions of parasitosis</td>
</tr>
<tr>
<td>Secondary psychiatric disorders</td>
<td>Emotional problems result from having skin disease, usually as a consequence of disfigurement</td>
<td>Depression associated with acne, suicidal ideation associated with psoriasis</td>
</tr>
<tr>
<td>Cutaneous sensory disorders</td>
<td>Purely sensory complaint without visible evidence of skin disease or a diagnosable underlying medical condition</td>
<td>Burning sensation in the groin</td>
</tr>
</tbody>
</table>

Data from Koo et al.
ing go away if the triggers are eliminated? What is the role of stress and diet in rosacea?

Although the link between diet and acne remains somewhat unclear, it is generally accepted that rosacea is triggered by a number of foods, alcohol, hot beverages, and spices. However, the pathophysiologic causes of rosacea remain poorly defined. It is possible that rosacea may be one of many skin conditions associated with emotional triggers. Some of the earlier descriptions of rosacea depicted people with acne and chronic blushing as timid and socially inhibited. In 1984, Panconesi described people with rosacea as individuals who were anxious, with low feelings of self-worth, and troubled by guilt and shame. Studies of psychiatric disorders in patients with rosacea have found that social phobia, depression, and body dysmorphic disorder are especially common. Social phobia is characterized by panic attacks and the marked and persistent fear of social performance situations in which embarrassment may occur. Body dysmorphic disorder is characterized by preoccupation with a defect in appearance, no matter how slight. Low self-esteem among persons with rosacea may be related to the facial changes, especially the appearance of papules and pustules. Embarrassment and anxiety about facial flushing and erythema in social situations may resemble panic disorder. These patients may feel that they have diminished sexual desirability or difficulties with career advancement. They also may be inaccurately viewed by others as abusers of alcohol.

**Psychiatric Symptoms and Isotretinoin**

In a review of the medical literature published from 1996 through 2003, Hull and D’Arcy examined the relationship between psychiatric symptoms and the use of isotretinoin, which was approved in 1982 for the treatment of severe cystic acne unresponsive to conventional treatment. Among the published studies of isotretinoin, these authors found 24 documented cases of depression associated with isotretinoin, with 3 suicides. They also examined reports to the Adverse Event Reporting System of the US Food and Drug Administration. This database contained approximately 23,000 adverse event reports for isotretinoin from the time it was approved through December 2002. More than 3000 of these reports, in the United States and overseas, included at least 1 psychiatric event. There were 173 reports of suicide associated with isotretinoin use.

Despite these reports, there is no consensus regarding the association between isotretinoin and depression or whether the incidence of suicide among patients who take isotretinoin is higher than would be expected for similar patients who are not taking it. A prospective study conducted by Ng et al compared depression, quality of life, and acne severity ratings at baseline, 1 month, 3 months, and end of treatment or 6 months between isotretinoin and antibacterial users. They concluded that there was no difference in depression or quality-of-life scores. In a recent study that used functional brain imaging to evaluate changes in brain activity with isotretinoin use, Bremner et al found decreased metabolic activity in the orbitofrontal region of the cerebral cortex, a brain area that has been associated with depression. Depressive symptoms were not significantly different between patients who were using or not using isotretinoin, although the study was relatively small, with a total of 28 patients.

**Recommendations for Acne and Rosacea Management**

Several authors have provided recommendations to improve the psychosocial impact of acne and rosacea. Garnis-Jones suggested several steps to improve the management of acne and rosacea: consider the psychological distress when managing the skin problem; ease the minds of the patient (and parents, if applicable) that psychological difficulties are common with skin disease, but do not minimize the significance of the psychological problems; do not delay referral to a mental health provider; refer to a mental health provider who is trained in helping patients manage chronic illness, and who will help the patient focus on the interaction between the psychologic and dermatologic aspects of the disease, and not only the psychological issues; and realize that adolescents may cope differently in different stages of adolescence. A 13 year old or 14 year old may have well-managed acne because of extensive parental involvement in treatment, whereas an 18 year old who is away from home (eg, at college) may be less adherent to the treatment plan.

Rapp et al have suggested 5 steps to improve quality of life in patients with dermatologic conditions, which may be remembered using the acronym IVOTE:

- Inquire how acne is affecting your patient’s life
- Validate the negative impact of acne on quality of life
• Offer ideas to reduce the negative impact
• Tell patients you are committed to helping manage their symptoms and quality of life
• Evaluate quality of life when evaluating clinical outcomes

Berson et al emphasized tailoring treatment to patient characteristics and the importance of patient education. For example, these authors noted that men may prefer solutions and gels rather than facial creams, whereas women generally prefer lotions and creams, and adolescent males may be reluctant to use any topical medications in the morning. Patient education helps patients learn how to use their medications and understand that some over-the-counter products may worsen the condition. Women may need instruction in how to use cosmetics with topical skin products or the use of corrective cosmetics. Finally, Gupta and Gupta emphasized the importance of the biopsychosocial model in the management of skin diseases. This approach takes into consideration the treatment of physical signs and symptoms of acne and rosacea, awareness of the potential psychological consequences of the disorders, and understanding the impact of these disorders on social functioning.

CONCLUSIONS

Direct causal associations have not been established between acne and diet or psychosocial stressors. Certain dietary triggers and emotional stressors may aggravate rosacea, although these relationships are not well understood. A direct causal link between acne and psychiatric disorders has not been established, but acne is known to be associated with anxiety, depression, and a negative self-image. The role of isotretinoin in depression and suicide is unclear at present. It may be that the psychological benefits of improving severe acne outweigh the potential risks of isotretinoin-induced depression. At every visit, clinicians should assess for psychological symptoms and quality of social functioning in their patients with acne and rosacea.

REFERENCES