Rosacea is a common, variable, and chronic inflammatory skin condition that can be characterized by recurrent episodes of facial flushing, erythema, papules, pustules, and telangiectasia in the central, convex portion of the face. It is estimated to occur in 10% of the general population, and, although it occurs in all ethnic groups, it is most common in people of European and Cretan descent. Rosacea is more common in women than men, and the typical age of onset is between 30 and 50 years. According to the National Rosacea Society (NRS), 16 million Americans are currently living with the disease, and 30 and 50 years. According to the National Rosacea Society (NRS),

The correlations among dermatologic diseases, poor quality of life, and depression, anxiety, and other psychiatric comorbidities are well established.3,6 Any skin disease, regardless of its location on the body, may cause psychological distress and adversely affect quality of life, and may do so independently of clinical severity.8,10 Even diseases of mild severity may induce severe psychological distress. Rosacea is no exception: like patients with acne vulgaris and other dermatologic diseases, patients with rosacea frequently suffer from depression, low self-esteem, anxiety, fear of shame and embarrassment, and a loss of confidence.3,11 However, preliminary evidence using rosacea-specific quality-of-life instruments, such as the RosalQoL, and others, which still await validation, indicates that successful treatment can alleviate psychological sequelae of rosacea.4,5

But the psychological consequences of rosacea do not stop with the patient. New data from a digital perception survey funded by Galderma Laboratories, L.P. and in association with the NRS, indicate that rosacea causes more than negative self-perception; it also negatively biases the perceptions of others.3,6 The adult men and women with and without rosacea who participated in the survey, when shown digital images of women with and without rosacea, formed comparatively negative first impressions of those with the condition. Women with rosacea were perceived as having different and less favorable personality characteristics, lifestyles, and career skills than were those without rosacea. The implications are potentially far-reaching and suggest that rosacea affects not only self-esteem and perception but also career options, professional advancement, and social functioning and relationships as well. Indeed, many patients with rosacea included in the survey reported feeling unfairly and inaccurately judged and said that rosacea adversely affects their professional lives.

NRS DIGITAL PERCEPTION SURVEY

The NRS Digital Perception Survey looked at how women with rosacea are perceived by the general population as well as by other women with rosacea.13 In addition, the survey considered how women with rosacea believe they are perceived.

The study enrolled 1,311 adult men and women, 502 of whom were women with rosacea. Participants were shown three images at random. At least one of the images was a woman with rosacea, and at least one image was a woman without rosacea. Participants were then asked to complete a survey of their first impressions of the women in each photograph.

Overall, respondents with and without rosacea had unfavorable first impressions of women with rosacea. Women with rosacea were generally perceived as being stressed, tired, shy, lonely, and insecure. Conversely, women without rosacea were more often initially perceived as intelligent, confident, happy, fun, successful, and healthy (Table 13).

In addition to biasing the perception of personality traits, the presence or absence of rosacea affected assumptions about capabilities and lifestyles. For example, women with rosacea were more often assumed to hold entry-level jobs and less likely to hold executive-level positions. Women with rosacea were consequently also perceived as making less money than those without rosacea. Survey participants were more likely to assume that women with rosacea were single and less likely to go on dates or to go out on weekend nights than were those without rosacea. Women with rosacea were rated as needing to improve their skin care as well. Interestingly, the judgements and first perceptions were consistent among respondents with and without rosacea (Table 2).9 Respondents with rosacea did not appear to be any more sympathetic or empathetic than those without rosacea.

The study revealed that 70% of women with rosacea, as compared to 60% without rosacea, believe that their physical appearance and lifestyle make them less physically, socially, and professionally attractive and successful than those without rosacea. The results were consistent among respondents with and without rosacea.10 (Table 2).

Survey questions targeting only women with rosacea revealed that patients are often unaware of what rosacea is and delay seeking treatment. Indeed, 54% reported waiting at least 7 months after symptom onset before seeking medical help, and the mean time to symptom onset was 1.29 months (median, 7 months). One half of survey respondents did not know what rosacea was at the time of diagnosis, and 25% of respondents claimed to have had their rosacea misdiagnosed. When asked to use one word to describe how rosacea made them feel most of the time, respondents described it as uncomfortable, self-conscious/uncomfortable, 11% said frustrated/irritated/exasperated/aggravated/annoyed/upset/angry, and 10% said ugly.12 Overall, the survey results indicate that rosacea negatively influences self-perception and the first impressions of others, regardless of the observer’s own appearance. Women with rosacea are perceived by themselves and others as less physically, socially, and professionally attractive and successful than those without rosacea.

diagnosis

The diagnosis of rosacea is clinical. There are no laboratory tests, although biopsy may be needed to exclude other possible causes of symptoms. When making a diagnosis, physicians should understand and be capable of recognizing the differences between rosacea and acne, as the two conditions often look similar, particularly when pustules or papules are present (Figure 3 on page 2).13,14 Despite any superficial similarities, rosacea and acne are fundamentally different conditions. Rosacea is an inflammatory dermatologic disease with a usual onset between 30 and 50 years of age. Characteristic symptoms of rosacea—eg, flushing and telangiectasia—are absent in patients with acne. Acne, unlike rosacea, typically begins in adolescence. Acne is caused by follicular epidermal hyperproliferation, obstruction of the hair follicles, and inflammation by Propionibacterium acnes, and inflammation, leading to the characteristic comedones.13 In addition to acne, the differential diagnosis of rosacea should include seborrheic dermatitis, contact dermatitis, photodermatitis, sunburn, and other dermatologic conditions, as well as systemic diseases such as polyarteritis nodosa, mastocytosis, superior vena cava syndrome, carcinoid syndrome, systemic lupus erythematosus, dermatomyositis, and mixed connective tissue disease.10

PRESENTATION AND DIAGNOSIS

Given the psychological impact and biases caused by rosacea, as well as the possibility of severe sequelae such as ocular complications and rhinophyma, accurate diagnosis and appropriate treatment are warranted for all patients. Even when patients present for another complaint, be it dermatologic or otherwise, physicians should be capable of recognizing rosacea. Doing so requires familiarity with the disease’s signs, symptoms, and triggers, and, essentially, its appearance.

Etiology

The etiology of rosacea is unknown; however, multiple factors contributing to the condition have been identified. These include vasculature, climatic exposures (temperature), dermal matrix degeneration, chemicals and ingested agents (foods, alcohol, medications), polisscarusine abnormalities, microbial organisms, ferritin expression, reactive oxygen species, increased neangiogenesis, and dysfunction of antimicrobial peptides.10

Signs and Symptoms

The signs and symptoms of rosacea are varied in appearance and severity. Patients may present complaining of flushing, itching, and sensitive skin, persistent redness, inflammatory papules and pustules, edema, or dry flaking skin.13,14 The eyes are affected in more than 50% of patients. Ocular symptoms range from mild dryness and irritation to blepharitis and conjunctivitis to sight-threatening keratitis, although this last manifestation is rare.11,12 Because of the variability in presentation, rosacea is divided into four subtypes: erythematotelangiectatic, papulopustular, phymatous, and ocular. Of these, erythematotelangiectatic (persistent central facial erythema) is the most common (Figure 2).2,13,14

Periodic rosacea flares may be associated with a wide range of triggers (Table 3 on page 2).13 Cosmetics, retinoids, corticosteroids, and other topical agents, as well as tobacco, nicois, and nitroglycerin, may induce rosacea flares. Spicy foods, chocolate, and dairy products, too, are associated with rosacea flares, as are changes in weather and temperature, hormonal changes, and stress and anxiety.11

Table 1. Survey Participants’ First Impressions of Women With Clear Skin and Those With Rosacea

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Participants With Rosacea (n=502)</th>
<th>Participants Without Rosacea (n=10,099)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin Clear</strong></td>
<td>Clear Skin</td>
<td>Clear Skin</td>
</tr>
<tr>
<td>Smudged</td>
<td>230</td>
<td>250</td>
</tr>
<tr>
<td>Tired</td>
<td>235</td>
<td>240</td>
</tr>
<tr>
<td>Shy</td>
<td>260</td>
<td>270</td>
</tr>
<tr>
<td>Happy</td>
<td>615</td>
<td>540</td>
</tr>
<tr>
<td>Intelligent</td>
<td>440</td>
<td>550</td>
</tr>
<tr>
<td>Confident</td>
<td>320</td>
<td>450</td>
</tr>
<tr>
<td>Successful</td>
<td>150</td>
<td>120</td>
</tr>
<tr>
<td>Healthy</td>
<td>320</td>
<td>310</td>
</tr>
</tbody>
</table>

Table 2. Survey Participants’ Assumptions About the Careers and Lifestyles of Those With and Without Rosacea

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Participants With Rosacea (n=502)</th>
<th>Participants Without Rosacea (n=1,009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level job</td>
<td>Clear Skin</td>
<td>Rosacea</td>
</tr>
<tr>
<td>Executive</td>
<td>12%</td>
<td>14%</td>
</tr>
<tr>
<td>Median annual income</td>
<td>$40,670</td>
<td>$46,890</td>
</tr>
<tr>
<td>Likely to live in a relationship</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>On weekends, goes out in stores</td>
<td>21%</td>
<td>22%</td>
</tr>
<tr>
<td>On weekends, stays home</td>
<td>59%</td>
<td>47%</td>
</tr>
<tr>
<td>Needs to improve skin care</td>
<td>10%</td>
<td>79%</td>
</tr>
</tbody>
</table>

Figure 3

Figure 2. Erythematotelangiectatic Rosacea

Used with permission. Source: Powell14

Used with permission. Source: Powell14

Diagnosis

The diagnosis of rosacea is clinical. There are no laboratory tests, although biopsy may be needed to exclude other possible causes of symptoms. When making a diagnosis, physicians should understand and be capable of recognizing the differences between rosacea and acne, as the two conditions often look similar, particularly when pustules or papules are present (Figure 3 on page 2).13,14 Despite any superficial similarities, rosacea and acne are fundamentally different conditions. Rosacea is an inflammatory dermatologic disease with a usual onset between 30 and 50 years of age. Characteristic symptoms of rosacea—eg, flushing and telangiectasia—are absent in patients with acne. Acne, unlike rosacea, typically begins in adolescence. Acne is caused by follicular epidermal hyperproliferation, obstruction of the hair follicles, and inflammation by Propionibacterium acnes, and inflammation, leading to the characteristic comedones.13 In addition to acne, the differential diagnosis of rosacea should include seborrheic dermatitis, contact dermatitis, photodermatitis, sunburn, and other dermatologic conditions, as well as systemic diseases such as polyarteritis nodosa, mastocytosis, superior vena cava syndrome, carcinoid syndrome, systemic lupus erythematosus, dermatomyositis, and mixed connective tissue disease.10

A Supplement to Skin & Allergy News. This supplement was sponsored by www.skinandallergynews.com/resources/best-practices.html
TREATMENT STRATEGIES

Rosacea treatment includes patient education, lifestyle modification, skin care regimens, topical therapy, and systemic pharmacologic therapy. Multiple treatments with favorable safety profiles that substantially reduce rosacea lesions are available. Although a fully validated rosacea-specific quality-of-life instrument such as the RosQoL is not yet available, preliminary evidence indicates that improving the symptoms of rosacea does correlate with an improvement in patients’ quality of life.1,11

Patient Education

As shown in the Galderm Laboratories survey, patients often are unaware of their rosacea symptoms, and only half of patients are familiar with rosacea at the time of diagnosis. Education is essential. The development of rosacea is, at least in part, attributable to genetics. However, patients must also understand that diet, exercise, use sun exposure—that is, multiple lifestyle factors—may trigger rosacea flares (Table 3).15 Clinicians should help patients determine which factors may contribute to their flares and offer advice on how to better manage these factors. For example, outdoor exercise is associated with flares, they can suggest that patients exercise only indoors. (Patient education materials are available from the NRS at www.rosacea.org.)

Skin Care Regimen

The first step in treatment is the initiation of a skin care regimen. In my practice, skin care begins with a gentle exfoliate such as glycolic acid or another nonsoap-based cleanser. Patients are also advised to use a broad-spectrum (protection from ultraviolet [UV] A and UVB radiation), mineral-based sunblock. These are sunblocks that contain zinc oxide or titanium dioxide.

Combination and Other Therapies

In my practice, I recommend combining oral and topical therapies, as this may produce the best patient outcomes. A recent clinical trial reported that a combination of doxycycline 40 mg plus metronidazole 1% gel produced greater reductions in inflammatory lesion counts than placebo plus metronidazole 1% gel within 4 weeks of initiating treatment, an improvement that was continued to week 12.12 Similar results have been reported with combinations of oral doxycycline and other formulations of metronidazole.20 Preliminary comparisons of topical azelaic acid 15% plus doxycycline and metronidazole 1% gel plus doxycycline suggest comparable efficacy.2 Overall, combination therapy appears to be well tolerated.

For patients who cannot tolerate these treatments or who do not respond, intense pulse light (IPL) therapy is an option. IPL therapy has been shown to reduce redness and flushing and to improve skin texture, with minimal and transient complications.21

DISCUSSION AND CONCLUSIONS

Although a fully validated rosacea-specific quality-of-life instrument is still needed, preliminary evidence indicates that when treatment is effective, patients’ quality of life is improved.20,22 RosQoL instrument, one such rosacea-specific instrument, in preliminary studies was found to be a reliable measure of quality of life in patients with rosacea, but greater validation is required. The introduction of such a tool to clinical practice could help clinicians better determine disease burden for individual patients, assess which disease aspects are most important to patients (eg, symptoms or emotional consequences of symptoms), track responsiveness to therapies, and determine if therapy improves both symptoms and quality of life.23 Overall, a rosacea-specific quality-of-life instrument could help clinicians tailor therapy to the individual needs of patients.

Rosacea, like other dermatologic diseases, can induce psycho- logical distress of varying severity. In addition to adversely affecting patients’ self-perception, the results of the Galderm Laboratories survey indicate that the presence of rosacea also adversely biases the perception of others. In the survey, those with rosacea were perceived as introverted, unhealthy, lonely, and perhaps even incompetent. Women with rosacea were more often considered to be professionally and personally unsuccessful. Rosacea is a chronic but treatable and manageable disease. Simple lifestyle modifications can help prevent or reduce the severity of rosacea flares, and a variety of safe and effective FDA-approved medications are available. Combinations of topical and oral therapies appear to be safe and to produce the best patient outcomes. Given the possible pathologic complications of undiagnosed and uncompromised rosacea, as well as the potential psychologic distress and biased perceptions and judgments to which patients with rosacea are victim, physicians have a responsibility to recognize and treat rosacea. This requires that physicians always look at and treat the whole patient, not only a patient’s presenting complaints and symptoms.

References

15. Wolf JF, Yelchak N, Azzariti S. Efficacy and safety of twice-daily metronidazole 1% gel compared with twice-daily azelaic acid 15% gel in the treatment of rosacea. Cutis. 2006;77(suppl):5-11.