ABSTRACT

Rosacea is a common chronic skin condition that is characterized by redness, flushing, papule and pustule formation, and nasal sebaceous gland hypertrophy (rhinophyma). Rosacea is exacerbated by a number of triggers, including certain foods, spices, medications, and cleaning products. The differential diagnosis includes several conditions that cause facial redness and flushing, including lupus, social anxiety disorder, menopause vasomotor response, sun damage, and the facial application of certain medications. Behavioral methods can help reduce rosacea exacerbations, including avoidance of stress, alcohol and tobacco use, sun exposure, and other triggers. Although topical metronidazole is the principal rosacea treatment, additional therapeutic options have included oral antibiotics, oral and topical retinoids, keratinolytic agents, and have included combination topical preparations (eg, benzoyl peroxide and clindamycin). Other therapies are sometimes suggested, such as β-blockers or clonidine, although these approaches often are of limited effectiveness in clinical practice. Laser or surgical approaches may be required to treat severe rosacea or rhinophyma. (Adv Stud Nurs. 2005;3(7):234-238)

C.L. is a 27-year-old woman with facial redness, flushing, pustules, ocular pruritus, and irritation that has persisted for many months. Other family members have the same problem. She has tried several over-the-counter products, including sulfa-based acne medications and allergy eye drops, but nothing has improved her condition, and she says that the treatments may have made her condition worse. On physical examination, she has central facial erythema with a number of erythematous papules, pustules, and several telangiectasias. The remaining part of her history and physical examination is noncontributory.

Does treatment for rosacea simply cover up the problem? Does C.L.’s skin condition indicate that she has a problem with alcohol use?

Rosacea is a chronic skin condition usually characterized by periods of flare and improvement. Clinical findings include intermittent central facial flushing, telangiectatic vessels, persistent redness, eruptions of inflammatory papules and pustules, and nasal sebaceous glandular hypertrophy (rhinophyma). Onset of rosacea typically occurs in individuals aged 30 to 50 years, although it can appear in younger patients. Rosacea affects females more than males; however, men are much more likely to develop rhinophyma. A survey of 2000 patients with rosacea conducted by the National Rosacea Society found that nearly 40% had a positive family history of rosacea. Rosacea is more common among individuals with Celtic ancestry (eg, the British islands, the Galicia region of Spain, and the Brittany region of France), although rosacea does affect all racial groups.

Rosacea symptoms are exacerbated by a number of factors, including a hot environment, sunlight, and hot beverages. Alcohol may worsen rosacea symptoms, but contrary to popular stereotype, the condi-
tion is not caused by heavy alcohol use. Many women note that rosacea waxes and wanes with the menstrual cycle. Rosacea is often accompanied by seborrheic dermatitis, other skin conditions, or migraine headache. Some studies have suggested that rosacea may be related to a skin infestation by the mite *Demodex folliculorum* or to infection with the bacteria *Helicobacter pylori*, although these relationships are largely speculative. Rosacea-like rashes can be caused by chronic or frequent facial application of some medications, including corticosteroids or the immunosuppressants tacrolimus or pimecrolimus.

**DIAGNOSIS OF ROSACEA**

The history of a patient with rosacea typically includes complaints of frequent blushing. The patient may be described as having “high color” or as always appearing sunburned. The disorder is diagnosed clinically: there are no laboratory tests to ultimately define or rule out rosacea. A skin biopsy is not necessary to diagnose rosacea, although it is sometimes helpful to eliminate other conditions.

The differential diagnosis consists of a large number of other conditions that may resemble some aspects of rosacea. Rosacea may be mistaken for the midfacial redness or rash of systemic lupus. A diagnosis of lupus would be suggested by the presence of other lupus symptoms, such as fever, anemia, joint pain, a positive antinuclear antibody test, or malar rash that spares the nasolabial folds. Social anxiety disorder can produce blushing, which is often accompanied by symptoms, such as sweating, tremor, and fear of a specific issue or setting (eg, public speaking).

Acne vulgaris is suggested by a younger age, a more generalized distribution of papules and pustules, the presence of comedones (blackheads or whiteheads), and the absence of eye involvement. Facial flushing in association with menopause may be suggested by the patient’s age and sex and by intermittent whole-body sensations of heat or flushing. Sun-related skin changes may resemble rosacea, but the facial symptoms are likely to be accompanied by skin damage to other sun-exposed body areas. Basal and squamous cell carcinomas and possibly malignant melanoma also may be encountered in these patients. The ocular symptoms of rosacea may resemble allergic conjunctivitis, although rosacea also would be accompanied by skin changes. A drug-induced acneiform rash may resemble rosacea, but flushing and telangiectasias are absent, and the distribution is typically more perioral.

There are 4 rosacea subtypes. Subtype 1 (erythematotelangiectatic) is characterized by flushing and persistent central facial erythema, with or without prominent telangiectasias. Subtype 2 (papulopustular) includes papules and pustules, usually on a background of inflammatory erythema and often in the center of the face. Telangiectases are often masked by other skin manifestations and may become more visible following successful treatment. This subtype often prompts patients to seek medical attention. Subtype 3 (phymatous) is characterized by thickening nasal skin and enlarged pores. This form of rosacea is more common in males than females, with a sex ratio of approximately 12:1 to 20:1. Subtype 4 (ocular rosacea) includes involvement of the eyes with telangiectatic vessels on the lids, a foreign body sensation in the eyes, and erythema of the eyelid margin. Ocular involvement may occur with or without the characteristic skin changes of rosacea. Each of the subtypes may also be graded on a 3-point scale of mild, moderate, or severe.

**MANAGEMENT OF ROSACEA: THE ROLE OF PATIENT EDUCATION**

Patient education about avoiding triggers is central to treating rosacea. The National Rosacea Society conducted a survey of 1066 people with rosacea to determine the most common rosacea triggers. The results of the survey are summarized in the Figure. Most of those people surveyed said that sun exposure, emotional stress, and hot weather caused exacerbations of rosacea, and many other factors were also common triggers. Many of these triggers, such as alcohol, sun exposure, or spicy foods, tend to make anyone flush or blush, but the reactions appear exaggerated in patients with rosacea.

Several behavioral approaches can help reduce exacerbations of rosacea. The “adrenaline flush” can be avoided by ensuring adequate sleep, avoiding heavy meals, and minimizing stress. Sunscreen can help to reduce damage to the skin and the supporting blood vessels. Several triggers should be avoided, including tobacco, alcohol, and harsh skin scrubs or cleansers. Stress management techniques may help reduce rosacea flare-ups, including a healthy diet, regular exercise, deep-breathing exercises, visualization exer-
The symptoms of rosacea often respond well to medical management, and a number of pharmacologic treatments are available. Topical metronidazole is probably the most commonly prescribed rosacea medication. Clinical trials have demonstrated that this agent is as effective as oral tetracycline for many patients with rosacea. With more severe rosacea, a good strategy is to begin treatment with oral antibiotics and switch to topical therapy once the symptoms are controlled. Topical combination therapy may be appropriate for patients who cannot tolerate metronidazole or do not like the way that product feels on the skin. A recent randomized, double-blind clinical trial found that a topical benzoyl peroxide and clindamycin gel produced an average 74% reduction in papules and pustules in patients with moderate to severe rosacea, as compared with an improvement of 19% with a placebo gel. Some clinicians have suggested that sulfa agents may help rosacea, such as 5% sulfur and 10% sulacetamide. This combination is antibacterial and keratolytic, and may also improve seborrheic dermatitis. However, sulfa-containing products often irritate sensitive skin, which may be a concern for individuals with rosacea. In 2 recent randomized clinical trials, a gel containing 15% azelaic acid, an anti-inflammatory, was shown to be superior to a placebo gel or topical 0.75% metronidazole at reducing the number of inflammatory lesions in patients with papulopustular rosacea, but it was more likely than metronidazole to cause skin irritation. Neither treatment improved telangiectasias. The combination of benzoyl peroxide and azelaic acid also may be an effective keratolytic treatment.

A survey of 1066 individuals with rosacea, conducted by the National Rosacea Society, examined the most common rosacea triggers. Sun exposure, stress, and hot weather were the most commonly reported triggers, but a wide variety of exacerbating factors were identified.

MANAGEMENT OF ROSACEA: THE ROLE OF PHARMACOTHERAPY

Systemic antibiotics can help control symptoms, especially in patients with rosacea and acneiform lesions. Possible agents include tetracycline, minocycline, erythromycin, and azithromycin. Oral antibiotic therapy is usually continued for 2 to 4 months. This regimen also may be helpful for patients with ocular rosacea, which may be followed by a maintenance therapy with a topical agent.

Topical tretinoin can be helpful for patients with severe rosacea and also can help improve sun damage. Occasionally, oral or topical isotretinoin may be used for patients with very severe rosacea that does not respond to standard therapy, especially for those with severe ocular disease, although patients with this degree of severity often will be referred for specialist care. Sometimes topical or systemic corticosteroids also are mentioned in the clinical literature for the treatment of rosacea, although these are primarily used only for patients with a very severe outbreak of rosacea and with a relatively limited duration of treatment. Topical steroids generally should be avoided in patients with less severe rosacea, as they may cause long-lasting exacerbation of the condition. For patients with rosacea and ocular disease, lid hygiene, fusidic acid, or metronidazole cream applied to the lid margin may improve symptoms. Some authors have suggested that it may be possible to prevent flushing using clonidine, β-blockers, or other potentially vessel-stabilizing agents. However, in clinical practice, this is rarely effective, although occasionally a patient will benefit from these treatments.

Laser therapy may be helpful for someone with prominent telangiectasia. Insurance probably will not pay for this procedure, as it is considered entirely cosmetic. Patients who are considering laser therapy should understand that the vessels may return and treatment will not reduce the redness associated with rhinophyma. Dermabrasion, laser peel, and surgical shave techniques also can be used to reduce rhinophyma.

CONCLUSIONS

Rosacea is a common disorder that, although often overlooked by healthcare professionals, is certainly treatable. Therapy can help patients to look better and feel better about their appearance. The progression of rhinophyma is not inevitable and can be slowed by a number of therapies. Behavioral techniques, in addition to topical, oral, and combination medication, can help manage rosacea symptoms.

REFERENCES


