

Rosacea

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Rosacea is a long term skin condition characterized by facial redness, small and superficial dilated blood vessels on facial skin, papules, pustules, and swelling.^[2] Rosacea typically begins as redness on the central face across the cheeks, nose, or forehead, but can also less commonly affect the neck, chest, ears, and scalp.^[3] In some cases, additional signs, such as semipermanent redness, dilation of superficial blood vessels on the face, red domed papules (small bumps) and pustules, red gritty eyes, burning and stinging sensations, and in some advanced cases, a red lobulated nose (rhinophyma), may develop.

Rosacea affects all ages and has four subtypes, three affecting the skin and the fourth affecting the eyes (ocular rosacea). It primarily affects people of northwestern European descent and has been nicknamed the "curse of the Celts" by some in Britain and Ireland, although such a connection has been questioned.^[4] Rosacea is almost three times more common in women. It is commonly found in people between the ages of 30 and 50, and is more common in Caucasians.^[2]

Treatment has typically been with doxycycline, tetracycline, or metronidazole.^[5] Other treatments with tentative benefit include brimonidine cream, ivermectin cream, and isotretinoin.^[5]

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Rosacea



An Old Man and His Grandson by Domenico Ghirlandaio (ca. 1490) shows skin damage from rhinophyma.^[1]

Pronunciation /roʊˈzeɪʃiə/

Classification and external resources

Specialty	Dermatology
ICD-10	L71 (http://apps.who.int/classifications/icd10/browse/2016/en#/L71)
ICD-9-CM	695.3 (http://www.icd9data.com/getICD9Code.aspx?icd9=695.3)
DiseasesDB	96 (http://www.diseasesdatabase.com/ddb96.htm)
MedlinePlus	000879 (https://medlineplus.gov/ency/article/000879.htm)

- 4.3 Laser
- 5 Epidemiology
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eMedicine	derm/377 (http://www.emedicine.com/derm/topic377.htm)
MeSH	D012393 (https://www.nlm.nih.gov/cgi/mesh/2017/MB_cgi?field=uid&term=D012393)

Signs and symptoms

Signs include facial redness, small and superficial dilated blood vessels on facial skin, papules, pustules, and swelling.^[2]

Erythrotelangiectatic rosacea

Erythrotelangiectatic rosacea (also known as "Erythematotelangiectatic rosacea"^[6] and "vascular rosacea"^[6]) is characterized by prominent history of prolonged (over ten minutes) flushing reaction to various stimuli, such as emotional stress, hot drinks, alcohol, spicy foods, exercise, cold or hot weather, or hot baths and showers.^[7]

Glandular rosacea

In glandular rosacea, men with thick sebaceous skin predominate, a disease in which the papules are edematous, the pustules often 0.5 to 1.0 cm in size, with nodulocystic lesions often present.^[7]

Cause

The exact cause of rosacea is unknown.^[2] Triggers that cause episodes of flushing and blushing play a part in its development. Exposure to temperature extremes, strenuous exercise, heat from sunlight, severe sunburn, stress, anxiety, cold wind, and moving to a warm or hot environment from a cold one, such as heated shops and offices during the winter, can each cause the face to become flushed.^[2] Certain foods and drinks can also trigger flushing, such as alcohol, foods and beverages containing caffeine (especially hot tea and coffee), foods high in histamines, and spicy foods.^[8]

Medications and topical irritants have also been known to trigger rosacea flares. Some acne and wrinkle treatments reported to cause rosacea include microdermabrasion and chemical peels, as well as high dosages of isotretinoin, benzoyl peroxide, and tretinoin. Steroid-induced rosacea is caused by the use of topical or nasal steroids.^[9] These steroids are often prescribed for seborrheic dermatitis. Dosage should be slowly decreased and not immediately stopped to avoid a flare-up.

Cathelicidins

In 2007, Richard Gallo and colleagues noticed that patients with rosacea had high levels of the antimicrobial peptide cathelicidin^[10] and elevated levels of stratum corneum tryptic enzymes (SCTEs). Antibiotics have been used in the past to treat rosacea, but they may only work because they inhibit some SCTEs.^[10]

Demodex mites

Studies of rosacea and *Demodex* mites have revealed that some people with rosacea have increased numbers of the mite,^[8] especially those with steroid-induced rosacea. On other occasions, demodicidosis (commonly known as "mange") is a separate condition that may have "rosacea-like" appearances.^[11]

A 2007, National Rosacea Society-funded study, demonstrated that *Demodex folliculorum* mites may be a cause or exacerbating factor in rosacea.^[12] The researchers identified *Bacillus oleronius* as distinct bacteria associated with Demodex mites. When analyzing blood samples using a peripheral blood mononuclear cell proliferation assay, they discovered that *B. oleronius* stimulated an immune system response in 79 percent of 22 patients with subtype 2 (papulopustular) rosacea, compared with only 29 percent of 17 subjects without the disorder. They concluded that "[t]he immune response results in inflammation, as evident in the papules (bumps) and pustules (pimples) of subtype 2 rosacea. This suggests that the *B. oleronius* bacteria found in the mites could be responsible for the inflammation associated with the condition."^[12]

Intestinal bacteria

Small intestinal bacterial overgrowth (SIBO) was demonstrated to have greater prevalence in rosacea patients and treating it with locally acting antibiotics led to rosacea lesion improvement in two studies. Conversely in rosacea patients who were SIBO negative, antibiotic therapy had no effect.^[13] The effectiveness of treating SIBO in rosacea patients may suggest that gut bacteria play a role in the pathogenesis of rosacea lesions.

Diagnosis

Most people with rosacea have only mild redness and are never formally diagnosed or treated. No test for rosacea is known.

In many cases, simple visual inspection by a trained health care professional is sufficient for diagnosis. In other cases, particularly when pimples or redness on less-common parts of the face is present, a trial of common treatments is useful for confirming a suspected diagnosis.

The disorder can be confused or co-exist with acne vulgaris or seborrheic dermatitis. The presence of rash on the scalp or ears suggests a different or co-existing diagnosis because rosacea is primarily a facial diagnosis, although it may occasionally appear in these other areas.

Classification

Four rosacea subtypes exist,^[14] and a patient may have more than one subtype:^{[15]:176}

1. Erythematotelangiectatic rosacea exhibits permanent redness (erythema) with a tendency to flush and blush easily.^[8] It is also common to have small, widened blood vessels visible near the surface of the skin (telangiectasias) and possibly intense burning, stinging, or itching.^[8] People with this type often have sensitive skin. Skin can also become very dry and flaky. In addition to the face, signs can also appear on the ears, neck, chest, upper back, and scalp.^[16]
2. Papulopustular rosacea presents with some permanent redness with red bumps (papules); some pus-filled pustules can last 1–4 days or longer. This subtype is often confused with acne.
3. Phymatous rosacea is most commonly associated with rhinophyma, an enlargement of the nose. Signs include thickening skin, irregular surface nodularities, and enlargement. Phymatous rosacea can also affect the chin (gnathophyma), forehead (metophyma), cheeks, eyelids (blepharophyma), and ears

(otophyma).^[17] Telangiectasias may be present.

- In ocular rosacea, affected eyes and eyelids may appear red due to telangiectasias and inflammation, and may feel dry, irritated, or gritty. Other symptoms include foreign body sensations, itching, burning, stinging, and sensitivity to light.^[18] Eyes can become more susceptible to infection. About half of the people with subtypes 1–3 also have eye symptoms. Blurry vision and vision loss can occur if the cornea is affected.^[18]

Variants

Variants of rosacea include the following:^{[19]:689}

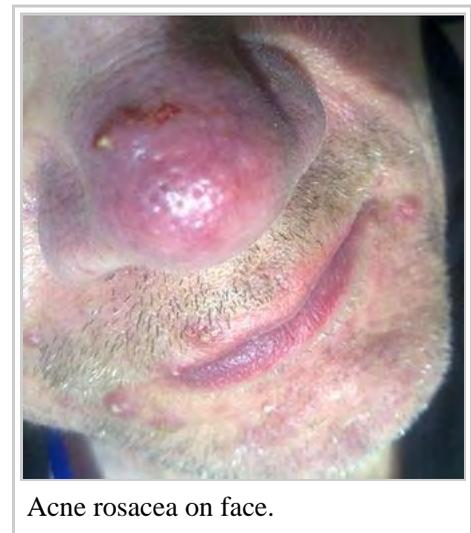
- Pyoderma faciale, also known as rosacea fulminans,^[19] is a conglobate, nodular disease that arises abruptly on the face.^{[6][19]}
- Rosacea conglobata is a severe rosacea that can mimic acne conglobata, with hemorrhagic nodular abscesses and indurated plaques.^[19]
- Phymatous rosacea is a cutaneous condition characterized by overgrowth of sebaceous glands.^[6] *Phyma* is Greek for swelling, mass, or bulb, and these can occur on the face and ears.^{[19]:693}



Treatments

Treating rosacea varies depending on severity and subtypes. A subtype-directed approach to treating rosacea patients is recommended to dermatologists.^[20] Mild cases are often not treated at all, or are simply covered up with normal cosmetics.

Therapy for the treatment of rosacea is not curative, and is best measured in terms of reduction in the amount of facial redness and inflammatory lesions, a decrease in the number, duration, and intensity of flares, and concomitant symptoms of itching, burning, and tenderness. The two primary modalities of rosacea treatment are topical and oral antibiotic agents.^[21] Laser therapy has also been classified as a form of treatment.^[21] While medications often produce a temporary remission of redness within a few weeks, the redness typically returns shortly after treatment is suspended. Long-term treatment, usually one to two years, may result in permanent control of the condition for some patients.^{[21][22]} Lifelong treatment is often necessary, although some cases resolve after a while and go into a permanent remission.^[22] Other cases, left untreated, worsen over time.



Behavior

Avoiding triggers that worsen the condition can help reduce the onset of rosacea, but alone will not normally lead to remission except in mild cases. Keeping a journal is sometimes recommended to help identify and reduce food and beverage triggers.

Because sunlight is a common trigger, avoiding excessive exposure to the sun is widely recommended. Some people with rosacea benefit from daily use of a sunscreen; others opt for wearing hats with broad brims. Like sunlight, emotional stress can also trigger rosacea. People who develop infections of the eyelids must practice frequent eyelid hygiene.

Managing pretrigger events such as prolonged exposure to cool environments can directly influence warm room flushing.^[23]

Medications

Medications with good evidence include ivermectin and azelaic acid creams and brimonidine, doxycycline, and isotretinoin by mouth.^[24] Lesser evidence supports metronidazole cream and tetracycline by mouth.^[24]

Metronidazole is thought to act through anti-inflammatory mechanisms, while azelaic acid is thought to decrease cathelicidin production. Oral antibiotics of the tetracycline class such as doxycycline and oxytetracycline are also commonly used and thought to reduce papulopustular lesions through anti-inflammatory actions rather than through their antibacterial capabilities.^[8]

Using alpha-hydroxy acid peels may help relieve redness caused by irritation, and reduce papules and pustules associated with rosacea.^[25] Oral antibiotics may help to relieve symptoms of ocular rosacea. If papules and pustules persist, then sometimes isotretinoin can be prescribed.^[26]

The flushing and blushing that typically accompanies rosacea is typically treated with the topical application of alpha agonists such as brimonidine and less commonly oxymetazoline or xylometazoline.^[8]

Laser

Dermatological vascular laser (single wavelength) or intense pulsed light (broad spectrum) machines offer one of the treatments for rosacea, in particular the erythema (redness) of the skin.^[27] They use light to penetrate the epidermis to target the capillaries in the dermis layer of the skin. The light is absorbed by oxyhemoglobin, which heats up, causing the capillary walls to heat up to 70 °C (158 °F), damaging them, and causing them to be absorbed by the body's natural defense mechanism. With a sufficient number of treatments, this method may even eliminate the redness altogether, though additional periodic treatments will likely be necessary to remove newly formed capillaries.^[21]

CO₂ lasers can be used to remove excess tissue caused by phymatous rosacea. CO₂ lasers emit a wavelength that is absorbed directly by the skin. The laser beam can be focused into a thin beam and used as a scalpel or defocused and used to vaporize tissue. Low-level light therapies have also been used to treat rosacea. Photorejuvenation can also reportedly be used to improve the appearance of rosacea and reduce the redness associated with it.^{[28][29][30]}



Laser treatment for rosacea using a V-Beam laser

Epidemiology

Women, especially those who are menopausal, are more likely than men to develop rosacea.^[31]

See also

- Keratosis pilaris

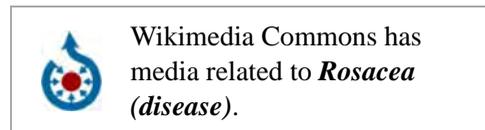
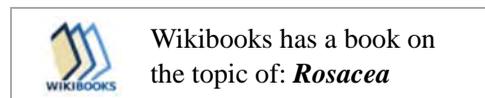
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External links

- Rosacea photo library at Dermnet (<http://www.dermnet.com/rosacea>)
- Questions and Answers about Rosacea (http://niams.nih.gov/Health_Info/Rosacea/default.asp), from the US National Institute of Arthritis and Musculoskeletal and Skin Diseases



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Categories: Acneiform eruptions

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