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Key Points

- Rosacea is an inflammatory disease most commonly found in fair (type 1 and 2) skin.
- Most patients have papules, pustules and telangiectasia (broken veins) but *no* comedones.
- All patients with rosacea should protect their face from ultra violet light.
- Topical steroids aggravate rosacea.

What to Tell the Patient

- There are safe, effective treatments for rosacea.
- Rosacea often goes through phases of relapse and recurrence.
- It is vital to protect the facial skin from natural and artificial ultraviolet light by the careful use for a SPF 30 or greater and a broad rimmed hat when outdoors.
- Mild cases will respond to topical treatments.
- More troublesome cases may need topical and tablet treatments.
- It usually takes 6–12 weeks to get a good response from rosacea treatments.
- If you are left with a lot of redness after a course of rosacea treatment, you may benefit from laser treatment for your broken veins.

10.1 Introduction

Rosacea is also known as “the curse of the Celts”. It is most commonly seen in type 1 and type 2 skins and affects up to 13.9% of the Irish population. There is a positive family history in 30% of patients. It is 2–3 times more common in females. It is sometimes referred to as “acne rosacea” although it is a different disease to acne.

10.2 Clinical Features and Diagnosis

It usually presents with multiple small papules and pustules (pimples) on the face with a red background due to telangiectasia (Figs. 10.1 and 10.2). The rash, which is confined to the face, is usually symmetrical affecting the convex areas of the centre of the face (cheeks, nose, forehead or chin). Some cases can be unilateral. Eye involvement (usually blepharitis) can occur in more than 50% of patients and can be the presenting feature in up to 20% of patients with rosacea (Fig. 10.3a, b). Rosacea is diagnosed clinically as there is not definitive biochemical or histological diagnostic features (Tables 10.1 and 10.2).

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Fig. 10.1 Typical rosacea



Fig. 10.2 Severe rosacea



Fig. 10.3 (a) Rosacea of the nose and eyes. (b) Blepharitis associated with rosacea

10.3 Differential Diagnosis

Rosacea can be confused with other papular-pustular rashes on the face (acne, peri oral dermatitis, folliculitis, drug eruptions) or conditions that cause a red face such as seborrheic dermatitis, psoriasis, telangiectasia, keratosis pilaris, lupus,

cellulitis, steroid damage, photosensitivity, or dermatomyositis (see Chap. 17 on the red face).

10.4 Pathophysiology

The hair follicle mite (demodex folliculorum), which is a normal inhabitant on the facial skin, is often found in excessive amounts in the skin in patients with rosacea but their role in the pathophysiology of rosacea is unclear. Treatments that reduce the amount of mites on the skin (e.g. ivermectin or metronidazol) seem to help with rosacea.

Rosacea is an inflammatory process [1]. If there is redness (telangiectasia) but no papules or pustules then it may not be rosacea, just simply broken veins (Heliodermitis). Rosacea can be distinguished from acne by the redness of the skin and

the absence of comedones (blackheads and whiteheads) (Fig. 10.4). Rosacea usually occurs in an older age group than those with acne (over 30 years old) but some unfortunate individuals can grow out of acne and into rosacea. At a certain stage some of these patients might have features of both conditions (“red acne”). Fortunately, many of the treatments for acne can also help rosacea (azelaic acid gel or oral tertyclines). Rosacea can occasionally be seen in teenagers.

Unlike acne, rosacea is usually made worse by ultraviolet light, so strict sun avoidance is important. Patients with rosacea may also flush or blush easily and should avoid anything that causes blushing (e.g. stress, excess heat, strenuous exercise). Topical steroids (TS) (even weak ones) should be strictly avoided in rosacea. While they may give a temporary improvement at the beginning of treatment, the condition worsens if TS are continued long term. Rosacea can flare up badly if the TS is stopped suddenly without topical or oral treatments as outlined below.

There is not good evidence to implicate food as a cause or aggravating factor in rosacea. However, it may help if patients avoid foods or drinks that make them flush or blush (e.g. spicy foods, caffeine, alcohol). They should also avoid excessive heat such as saunas or sitting close to a hot fire. Smoking and alcohol consumption make rosacea more severe. Green based cosmetic camouflage may help hide the redness. The Red Cross and the UK based charity, Changing Faces, can help with cosmetic camouflage. (www.changing-faces.org.uk).

Table 10.1 Guidelines for the diagnosis of rosacea

Presence of one or more of the following primary features:	
Flushing (transient erythema)	
Permanent erythema	
Papules and pustules	
Telangiectasia	
May include one or more of the following secondary features:	
Burning or stinging	
Plaques	
Dry appearance	
Oedema	
Ocular manifestations: (Blepharitis, styes, chalazia, and corneal damage)	
Phymatous changes	

Table 10.2 Subtypes of rosacea

Erythematotelangiectatic	Flushing and persistent central facial erythema with or without telangiectasia.
Papulopustular	Persistent central facial erythema with transient, central facial papules or pustules or both.
Phymatous	Thickening skin, irregular surface nodularities and enlargement. May occur on the nose, chin, forehead, cheeks, or ears.
Ocular	Foreign body sensation in the eye, burning or stinging, dryness, itching, ocular photosensitivity, blurred vision, telangiectasia of the sclera or other parts of the eye, or periorbital edema.
Steroid rosacea	Severe papules, pustules and telangiectasia which are aggravated by sudden withdrawal of the topical steroid



Fig. 10.4 Rosacea with no comedones

10.5 Topical Treatments

Rosacea is a chronic disease with periods of relapses and remissions which can continue for many years. It is usually worse in pregnancy. Treatment of rosacea is usually either with topical or oral medication or both. Most mild cases will respond to topical metronidazole or azelaic acid 15% gel for 6–12 weeks. Topical ivermectin 1% cream (“Soolantra[®]”, an antiparasitic agent) is considered more effective than metronidazole and only has to be applied once a day for 6–12 weeks. With topical ivermectin there are no concerns about antibiotic resistance. It should be applied all over the face and not just on the red areas. If facial flushing is a problem, “Mervaso Gel[®]” (brimonidine tartrate) may help but rebound flushing can occur in up to 20%.

10.6 Systemic Treatments

More severe cases may need the addition of an oral antibiotic which has a strong anti-inflammatory action such as a lymecycline or doxycycline. Lymecycline is normally prescribed in the same dose as acne for 1–3 months (300 mg daily). Doxycycline 100 mg daily can cause photosensitivity so all patients should be warned about this unusual side effect. Low dose doxycycline (40 mg

daily) in a modified slow release capsule (“Efracea[®]”) can be effective and safe in milder forms of rosacea and does not promote bacterial resistance. Oral minocyclin (100 mg OD), oral metronidazole or oral ivermectin may help in more severe cases. Oral erythromycin 500 mg BD may be helpful in severe flare-ups in pregnancy. Severe, resistant cases of rosacea might require low dose isotretinoin (0.3 mg/kg/day) or laser treatment. Sometimes 10 or 20 mg of oral isotretinoin three times per week might be sufficient to control rosacea.

Topical and oral medications mentioned above for rosacea will help primarily with the inflammatory features of rosacea (papules and pustules). However some patients may be left with persistent redness and telangiectases after clearing their papules and pustules. The redness may respond to cooling creams kept in the fridge, brimonidine gel (“Mirvaso[®]”), cosmetic camouflage or laser treatment. Some cases of flushing may respond to beta blockers such as propranolol or carvedilol.

Eye symptoms such as blepharitis conjunctivitis, and irregularity of the eyelid margins may respond to eye lubricants or metronidazole gel applied to the eyelids. Meibomian gland dysfunction causing chalazion or chronic staphylococcal infection that can cause hordeolum (stye) may also occur with ocular rosacea. Some patients may have decreased visual acuity caused by corneal complications (punctate keratitis, corneal infiltrates/ulcers, or marginal keratitis).

These more serious eye problems may need the assessment of an ophthalmologist and treatment with cyclosporine eye drops, oral antibiotics as mentioned above or low dose isotretinoin. Washing the eyelids with diluted Tea Tree oil and applying topical metronidazole or ivermectin carefully to the eyelids may also help. Topical steroid eye ointments or drops should be avoided.

Some patients with rosacea may develop rhinophyma which causes thickening of the skin on the nose with enlargement of the sebaceous glands (Fig. 10.5). This can lead to a red bulbous



Fig. 10.5 Rhinophyma and rosacea

nose which can be unsightly and the patient may be mistakenly accused of being a heavy drinker. Thickening of the skin can also rarely affect the chin (gnathophyma), the ear (otophyma) or the forehead (metophyma). It is much more common in males and in some cases may need surgical treatment to correct the deformity.

10.7 Conclusion

With careful treatment using topical rosacea agents and/or systemic agents, most flare ups of rosacea can be settled within 6–12 weeks. Photo protection with a factor 30 SFP or greater and a broad brimmed hat should help prevent relapses.

Reference

1. Del Rosso JQ, Gallo RL, Kircik L, et al. Why is rosacea considered to be an inflammatory disorder? The primary role. *J Drugs Dermatol.* 2012;11(6):694–700.