

## Using a Combination of Therapies to Manage Rosacea



Rosacea patients need to understand the cascade of events that take place in the pathogenesis of the disease. Most patients may have a combination of triggers of their disease. There are many effective treatments suggested here, but not every patient responds the same and more than 1 therapy might be necessary. Dr. Perez explains her pathogenesis-directed approach to treatment.

Maritza I. Perez, MD

### What do your patients need to know at the first visit?

Patients need to understand that rosacea has no gender, age, or race predilection. It is caused by a personal and genetic proinflammatory predisposition. Rosacea patients seem to have a genetic predisposition to overproduce cathelicidins, a small antimicrobial peptide that is produced by the action of stratum corneum tryptic enzyme. They have more production and abnormal forms of cathelicidins produced by high levels of stratum corneum tryptic enzyme. This upregulation of inflammatory cathelicidins on the dermis is associated with vascular instability and exacerbated by triggers such as sunlight, hot drinks, spicy foods, stress, and rapid changing weather.

I divide the condition into proinflammatory predisposition, vascular instability with redness, *Demodex* infection of the hair follicle, and sebaceous gland overgrowth. More recently, the bacterium *Bacillus oleronius* was isolated from inside a *Demodex* mite and was found to produce molecules provoking an immune reaction in rosacea patients (Erbağci and Özgötaşı). Other studies have shown that patients with varying types of rosacea react to the molecules produced by this bacterium, exposing

it as a likely trigger for the condition (Li et al). What's more, this bacterium is sensitive to the antibiotics used to treat rosacea.

### What are your go-to treatments? What are the side effects?

For inflammation I prescribe anti-inflammatory (low dose) or antibacterial (high dose) doses of doxycycline and/or anti-inflammatory azelaic acid gel 15% twice daily after application of barrier repair topical hyaluronic acid. For the vascular component I use the temporary relief from the application of brimonidine gel 0.33% in the morning in addition to the topical given for inflammatory rosacea, and the more durable excel V (532 and 1064 nm) laser. Ultimately, topical ivermectin is prescribed for those patients who do not respond to previously mentioned treatments for coverage of *Demodex* infestation. For rhinophyma I offer a surgical approach and laser treatments; surgical removal of the excess glandular growth is followed by fractional ablative and nonablative treatments for scar reduction after surgery.

All patients should apply an inorganic sun protection factor 50+ sunblock with titanium dioxide and zinc oxide to prevent sunlight from being a trigger. All patients are encouraged to avoid triggers.

I try to prevent the potential side effects associated with rosacea treatments. For example, applying barrier repair hyaluronic acid before azelaic acid to prevent irritation and telling patients they might have vascular rebound phenomena with more redness after brimonidine application wears off. I also explain to patients that laser treatments induce temporary erythema and swelling that may last 3 days.

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**How do you keep patients compliant with treatment?**

In general, my patients are compliant with their treatments, which I ascribe to the simplicity of a twice-daily regimen that is written for them. They understand that I design a treatment regimen for each individual patient based on his/her presentation.

**What resources do you recommend to patients for more information?**

I recommend web-based resources that can provide further assistance and information, such as the American Academy of Dermatology website (<https://www.aad.org/public/diseases/acne-and-rosacea/rosacea>), National Rosacea Society ([www.rosacea.org](http://www.rosacea.org)), and specific disease foundations (eg, International Rosacea Foundation [[www.internationalrosaceafoundation.org](http://www.internationalrosaceafoundation.org)]).

**SUGGESTED READINGS**

Erbagci Z, Ozgöztaşı O. The significance of *Demodex folliculorum* density in rosacea. *Int J Dermatol*. 1998; 37:421-425.

Li J, O'Reilly N, Sheha H, et al. Correlation between ocular *Demodex* infestation and serum immunoreactivity to *Bacillus* proteins in patients with facial rosacea. *Ophthalmology*. 2010;117:870-877.