



## Not acne, but what?

The diagnosis of this patient's inflammatory condition required us to dig deeper.

**AN OTHERWISE HEALTHY 53-YEAR-OLD MAN** presented with a 6-month history of an acneiform eruption on his face. There was no history of teenage acne or allergic contact dermatitis.

Scattered papules and pustules were present on the forehead, nose, and cheeks, with background erythema and telangiectasias (FIGURE 1). A few pinpoint crusted excoriations were noted. A sample was taken from the papules and pustules using a #15 blade and submitted for examination.

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- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

**FIGURE 1**

**Erythematous papules and pustules on the face**



IMAGE COURTESY OF EMORY E. WILLS, MS-4, LAURA BETH EDWARDS, MD, PGY-3, ROBERT T. BRODELL, MD, AND AMY E. FLISCHEL, MD

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➤ A proliferation of Demodex is seen in almost all cases of papulopustular rosacea and more than 60% of cases of erythematotelangiectatic rosacea.

**Diagnosis:  
Rosacea with Demodex mites**

Under light microscopy, the scraping revealed Demodex mites (FIGURE 2). It has been proposed that these mites play a role in the inflammatory process seen in rosacea, although studies have yet to determine whether the inflammatory symptoms of rosacea cause the mites to proliferate or if the mites contribute to the initial inflammatory process.<sup>1,2</sup>

■ **Demodex folliculorum** and **D brevis** are part of normal skin flora; they are found in about 12% of all follicles and most commonly involve the face.<sup>3</sup> They often become abundant in the presence of numerous sebaceous glands. Men have more sebaceous glands than women do, and thus run a greater risk for infestation with mites. An abnormal proliferation of Demodex mites can lead to demodicosis.

Demodex mites can be examined microscopically via the skin surface sampling technique known as *scraping*, which was done in this case. Samples taken from the papules and pustules utilizing a #15 blade are placed in immersion oil on a glass slide, cover-slipped, and examined by light microscopy.

■ **Rosacea** is thought to be an inflammatory disease in which the immune system is triggered by a variety of factors, including UV light, heat, stress, alcohol, hormonal influences, and microorganisms.<sup>1,4</sup> The disease is found in up to 10% of the population worldwide.<sup>1</sup>

The diagnosis of rosacea requires at least 1 of the 2 “core features”—persistent central facial erythema or phymatous changes—or 2 of 4 “major features”: papules/pustules, ocular manifestation, flushing, and telangiectasias. There are 3 phenotypes: ocular, papulopustular, and erythematotelangiectatic.<sup>5,6</sup>

■ **The connection.** Papulopustular and erythematotelangiectatic rosacea may be caused by a proliferation of Demodex mites and increased vascular endothelial growth factor production.<sup>2</sup> In fact, a proliferation of Demodex is seen in almost all cases of papulopustular rosacea and more than 60% of cases of erythematotelangiectatic rosacea.<sup>2</sup>

**Patient age and distribution of lesions narrowed the differential**

■ **Acne vulgaris** is an inflammatory disease of the pilosebaceous units caused by increased sebum production, inflammation, and bacterial colonization (*Propionibacterium acnes*) of hair follicles on the face, neck, chest, and other areas. Both inflammatory and noninflammatory lesions can be present, and in serious cases, scarring can result.<sup>7</sup> The case patient’s age and accompanying broad erythema were more consistent with rosacea than acne vulgaris.

■ **Seborrheic dermatitis** is a common skin condition usually stemming from an inflammatory reaction to a common yeast. Classic symptoms include scaling and erythema of the scalp and central face, as well as pruritus. Topical antifungals such as ketoconazole 2% cream and 2% shampoo are the mainstay of treatment.<sup>8</sup> The broad distribution and papulopustules in this patient argue against the diagnosis of seborrheic dermatitis.

■ **Systemic lupus erythematosus** is a systemic inflammatory disease that often has cutaneous manifestations. Acute lupus manifests as an erythematous “butterfly rash” across the face and cheeks. Chronic discoid lupus involves depigmented plaques, erythematous macules, telangiectasias, and scarring with loss of normal hair follicles. These findings classically are photodistributed.<sup>9</sup> The classic broad erythema extending from the cheeks over the bridge of the nose was not present in this patient.

**FIGURE 2**  
**Microscopic examination revealed Demodex mites**



IMAGE COURTESY OF EMORY E. WILLS, MS-4, LAURA BETH EDWARDS, MD, PGY-3, ROBERT T. BRODELL, MD, AND AMY E. FLISCHEL, MD

## Treatment is primarily topical

Mild cases of rosacea often can be managed with topical antibiotic creams. More severe cases may require systemic antibiotics such as tetracycline or doxycycline, although these are used with caution due to the potential for antibiotic resistance.

Ivermectin 1% cream is a US Food and Drug Administration–approved medication that is applied once daily for up to a year to treat the inflammatory pustules associated with Demodex mites. Although it is costly, studies have shown better results with topical ivermectin than with other topical medications (eg, metronidazole 0.75% gel or cream). However, metronidazole 0.75% gel applied twice daily and oral tetracycline 250 mg or doxycycline 100 mg daily or twice daily for at least 2 months often are utilized when the cost of topical ivermectin is prohibitive.<sup>10</sup>

■ **Our patient** was treated with a combination of doxycycline 100 mg daily for 30 days and ivermectin 1% cream daily. He was also instructed to apply sunscreen daily. He im-

proved rapidly, and the daily topical ivermectin was discontinued after 6 months. **JFP**

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## Dx ACROSS THE SKIN COLOR SPECTRUM

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