DERM DX

A healthy 63-year-old Vietnamese woman presented with a painful, swollen left ankle for 3 months but had no trauma to the area. She had a 5-by-10-cm erythematous, warm, indurated, mildly tender plaque. She also had a mild, nonproductive cough of 3 years' duration; a previous PPD was negative. She had been treated with oral antibiotics and systemic potassium iodide without improvement. What's your diagnosis?

NEW ORLEANS — Abnormal antinuclear antibody, antistreptolysin O titer, and rapid plasma reagin tests were all negative. A chest x-ray showed mild cardiomegaly, but was otherwise unremarkable. A purified protein derivative (PPD) was reactive at 48 hours. Histology showed a lobular infiltrate and vasculitis, with a substantial amount of extravasated red blood cells.

The diagnosis was erythema induratum. The earlier negative PPD test could have been incorrectly read, or she could have been exposed and seroconverted after the initial test. The patient received combination therapy with isoniazid, rifampin, and pyrazinamide for 9 months. Within 3 months, she had considerable reduction in induration, erythema, and discomfort. By the end of treatment, all symptoms had resolved.

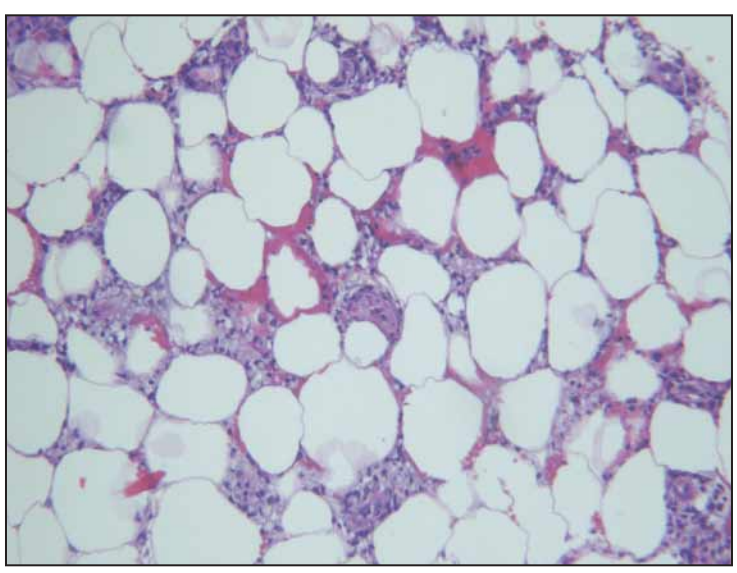
However, 3 years later, she presented with a new painful, erythematous plaque on her left ankle. She denied any systemic complaints including fever, chills, cough, or weight loss. Histology was consistent with nodular vasculitis and similar to the first lesion. She was successfully treated with prednisone at a starting dose of 60 mg, tapered over 12 days.

The nodular vasculitis diagnosis was something of a surprise because erythema induratum was expected, said Jennifer Dempsey, M.D., of Vanderbilt University, Nashville, Tenn., at the annual meeting of the American Academy of Dermatology. "We know that inadequately treated cases of erythema induratum may recur," she said.

The recurrence could have been related to the TB therapy, she noted.

Nodular vasculitis and erythema induratum were initially considered one entity, Dr. Dempsey said. More recently, the disorders have been divided based on their association with TB: Nodular vasculitis is not associated with the infection, while 30%-80% of erythema induratum is associated.

—Michele G. Sullivan



PHOTOS COURTESY DR. JENNIFER DEMPSEY

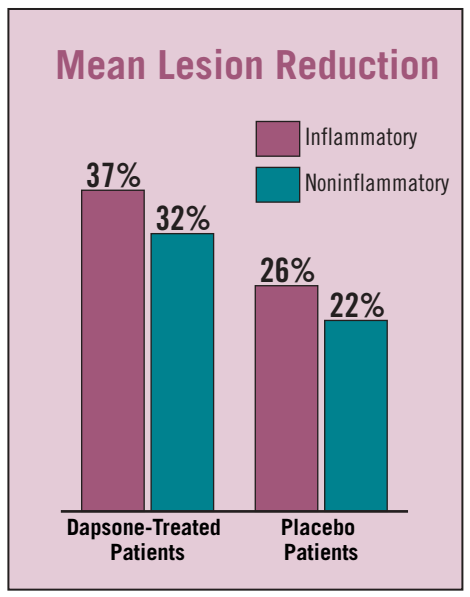
Dapsone Gel Effective for Acne

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

NEW ORLEANS — A 5% dapsone gel appears safe and effective in clearing both inflammatory and noninflammatory acne lesions and seems more effective with longer use, researchers said at the annual meeting of the American Academy of Dermatology.

Two phase III studies showed significant reductions in lesion count and very low rates of adverse events, all of which were mild and decreased with continued use of the medication. The most common application site side effects—sunburn, dryness, and rash—were reported by no more than 3% of patients.

The first study, by David C. Wilson, M.D., included 496 patients aged 12-44 years with mild to severe facial acne. The patients were randomized to either dapsone 5% gel (330 patients) or vehicle (166 patients), applied twice daily for 12 weeks. At baseline, the patients had a mean lesion count of 33 inflammatory lesions and 55 noninflammatory lesions.



Significant differences in lesion count reduction were apparent by week 4 of treatment, said Dr. Wilson, a dermatologist in private practice in Forest, Va. By week 12, success as measured by a Global Acne Assessment score of less than 2 occurred in about 28% of the treatment group and 19% of the placebo group.

"These results are similar to what we have seen in short-term trials of other agents," Dr. Wilson said in a poster session at the meeting.

By the end of the study, patients treated with dapsone experienced greater mean reduction of both inflammatory lesions (37% vs. 26%) and noninflammatory lesions (32% vs. 22%) than did the vehicle-treated patients.

Pruritus, burning, and nonspecific site reaction were reported by less than 2% of patients and did not differ significantly between the groups. Headache, upper respiratory infection, and nasopharyngitis occurred in 6% or less of patients and did not differ significantly between groups.

An open-label study by Michael Maloney, M.D., examined the drug's long-term safety and efficacy in 506 patients with moderate to severe acne on the face, back, shoulders, and/or chest. The patients applied the gel twice daily to acne-involved areas for 12 months.

If acne cleared in one area, the gel was discontinued in that area. If it recurred, the gel was resumed.

At baseline, the mean lesion count was 48 inflammatory and 38 noninflammatory lesions.

Improvement was noted as early as 4 weeks. By 12 months, inflammatory lesions decreased a mean of 58%, noninflammatory lesions decreased a mean of 19.5%, and total lesion count decreased a mean of 49%.

Four patients (1%) dropped out of the study because of a lack of efficacy with the treatment.

The most common application site adverse events were dryness, rash, and sunburn; fewer than 3% of patients reported these.

The most common non–application site adverse events were headache (20%) and nasopharyngitis (15%).

A total of 11 patients (2%) dropped out because of adverse events.

Dapsone appears to exert both an anti-inflammatory and an antibiotic effect, said Dr. Mahoney, a dermatologist at Cherry Creek Research Inc., Denver, but its exact mechanism of action is unknown.

Both studies were sponsored by QLT USA Inc., of Fort Collins, Colo., and Astellas Pharma U.S. Inc., Deerfield, Ill. Neither investigator reported a financial interest in the product or company. ■

How Do Lasers Work on Acne?

NEW ORLEANS — Nonablative laser therapy for acne doesn't kill *Propionibacterium acnes* or decrease sebum production but instead appears to work by inducing a rapid and dramatic increase in transforming growth factor β, Edward Seaton, M.D., said in a poster presented at the annual meeting of the American Academy of Dermatology.

"TGF-β is a very important anti-inflammatory cytokine that plays a pivotal role in decreasing inflammation and is the first stimulus of neocollagenesis," Dr. Seaton of Hammersmith Hospital, London, said in an interview. "This is the first time a biologic explanation of lasers' effect on acne has been proposed."

Dr. Seaton used nonablative laser therapy on the foreheads of 19 subjects with mild to moderate acne who had received no previous treatment. He took before and after measurements of *P. acnes* colony count, sebum production, and several cytokines and receptors: interleukin-1 (comedogenic), interleukin-1 receptor antagonist (anticomedogenic), interleukin-10 (anti-inflammatory), tumor necrosis factor (proinflammatory), TGF-β (anti-inflammatory), and melanocortin-1 receptor (expressed in healthy sebaceous glands). Each subject received one session of nonablative laser therapy (wavelength 585 nm, pulse duration 350 msec, 2 J/cm^2, spot diameter 7 mm.

After 24 hours, there was no decrease in the number of *P. acnes* colonies on the treated area; in fact, there was a non–statistically significant increase in the number of colonies. There was no significant decrease in the sebum excretion rate at 2, 4, 8, or 24 weeks post treatment. After 24 hours, there was a dramatic, fivefold increase in TGF-β but no significant changes in any other cytokine or receptor levels.

—Michele G. Sullivan