Successful Treatment of Recalcitrant Palmoplantar Psoriasis With Etanercept

Jeffrey M. Weinberg, MD

Palmoplantar psoriasis is a disabling condition characterized by recurrent crops of sterile pustules with associated erythema, fissuring, and scaling. Genetic and environmental factors have been implicated in its etiology. Topical treatments are frequently ineffective. Other treatment options include systemic retinoids, psoralen-UVA (PUVA), and a combination of both. We report a case of successful treatment of recalcitrant palmoplantar psoriasis with etanercept in a 59-year-old woman unresponsive to other treatment modalities.

Cutis. 2003;72:396-398.

Palmoplantar psoriasis is an idiopathic disabling condition, characterized by recurrent crops of sterile pustules with associated erythema, fissuring, and scaling.[1] Once established, it may last for decades. Significant morbidity can impair dexterity or mobility and cause pain, pruritus, and embarrassment. Palmoplantar psoriasis may affect people of all ages and of either sex, though it is more commonly seen in middle-aged women.[1] It may be associated with other forms of psoriasis and appears to be a distinct entity in epidemiology and pathophysiology. Topical treatments are frequently ineffective.[1] Other treatment options include systemic retinoids,[2] psoralen-UVA (PUVA),[3] and a combination of both.[4] Etanercept is a 100% human tumor necrosis factor (TNF) receptor made from the fusion of 2 naturally occurring TNF receptors.[5] It binds to TNF with greater affinity than natural receptors, which are monomeric. The binding of etanercept to TNF renders the bound TNF biologically inactive, resulting in significant reduction in inflammatory activity. Etanercept currently is approved for the treatment of rheumatoid arthritis and psoriatic arthritis but has been used successfully for the treatment of psoriasis.[6] We report a case of successful treatment of recalcitrant palmoplantar psoriasis with etanercept.

Case Report

A 59-year-old white woman presented in May 2002 with palmoplantar psoriasis, which was diagnosed in August 2001. From that time until presentation, she noted unsuccessful treatment with topical steroids. Also, she described arthritic symptoms in her fingers and feet. She noted pain in her feet while walking and in her hands while performing her duties as a nurse. On physical examination, multiple, coalescing, erythematous, papulosquamous plaques on the palmar and plantar surfaces of her hands and feet, with extensive fissuring, were noted. There was moderate pitting of the nails.

Therapy with topical halobetasol propionate ointment and calcipotriene ointment 0.005% twice daily was begun. In addition, topical PUVA therapy was initiated 2 times a week. One month later, tazarotene gel 0.1% was added at bedtime. By July 2002, the patient had had minimal improvement in her disease, and decided to discontinue topical PUVA after experiencing a phototoxic reaction secondary to outdoor exposure. She did not wish to initiate therapy with acitretin but did continue with halobetasol propionate ointment, coal tar soaks, and hydroxyzine 25 mg at bedtime, with little improvement (Figure 1). By the end of January 2003, she continued to have recalcitrant disease. Therapy was begun in February with etanercept 25 mg subcutaneously 2 times a week. There was slow improvement over subsequent visits. The patient continued using halobetasol propionate ointment twice daily, but with improvement, discontinued this in early May. By the end of June 2003, after 19 weeks of therapy with etanercept, the patient experienced almost total clearing of her hands (Figure 2), mild to moderate scaling of

Accepted for publication September 11, 2003.
From the Department of Dermatology, St. Luke's-Roosevelt Hospital Center and Beth Israel Medical Center, New York, New York.
Dr. Weinberg is on the speakers' bureau for Amgen.
Reprints: Jeffrey M. Weinberg, MD, Department of Dermatology, St. Luke's-Roosevelt Hospital Center, 1090 Amsterdam Ave, Suite 11D, New York, NY 10025 (e-mail: jmw27@columbia.edu).

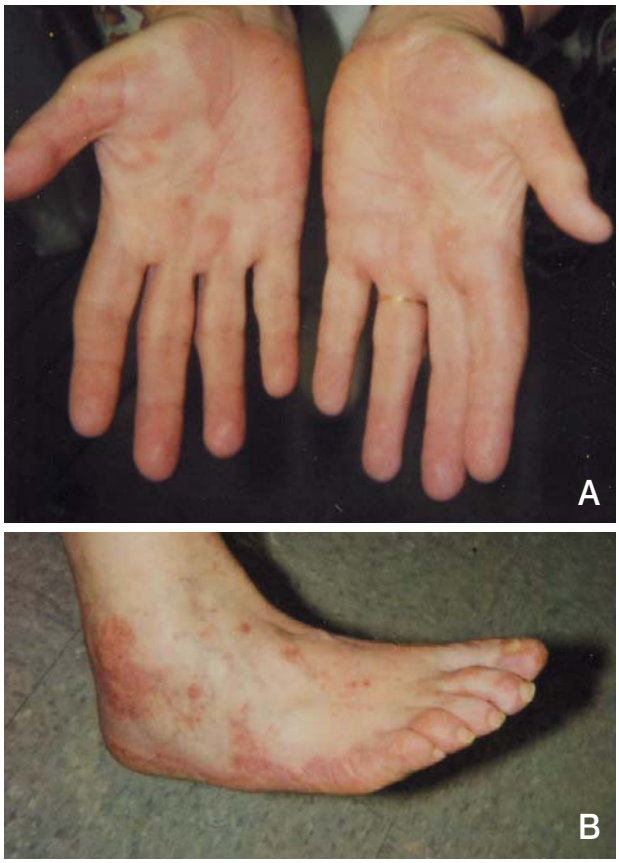

Figure 1. Psoriatic plaques on the hands (A) and right foot (B) in November 2002.

Figure 2. Clearing of the right hand in June 2003.

her feet (Figure 3), and resolution of her arthritic symptoms. Furthermore, she noted that her condition was under the best control since its inception.

Comment

Etanercept currently is approved for the treatment of rheumatoid arthritis and psoriatic arthritis. The drug, however, has been studied extensively for the treatment of plaque psoriasis.[6] In a phase 2 clinical study assessing the efficacy and safety of this biologic therapy, 112 patients with moderate to severe plaque psoriasis were randomized evenly to receive 25 mg of etanercept or placebo subcutaneously twice a week for 6 months.[6] At 3 months, 17 of 57 (30%) patients treated with etanercept achieved a 75% reduction in Psoriasis Area and Severity Index (PASI) compared with 1 of 55 (2%) patients treated with placebo ($P<.0001$). At 6 months, a 75% reduction in PASI was achieved in 32 (56%) patients treated with etanercept compared with 3 (5%) patients treated with placebo. In addition, at 6 months, 12 (21%) patients treated with etanercept achieved a 90% reduction in PASI compared with none in those treated with placebo, while 44 (77%) patients treated with etanercept achieved a 50% reduction in PASI compared with 7 (13%) in those treated with placebo.[6]

Similar findings were seen in a report of 6 patients, ranging in age from 33 to 57 years, with severe residual psoriasis (3 of whom also had psoriatic arthritis) who had been unresponsive to systemic treatments and phototherapy.[7] Moreover, no toxicity secondary to the treatment was noted. In patients where etanercept was added in combination with other systemic and topical medications, resistant disease became more responsive to treatment, allowing for lower doses of systemic agents.[7]

Etanercept also has been useful for the treatment of pustular psoriasis.[8] Kamarashev et al[8] reported the case of a 50-year-old male with a 15-year history of psoriasis, including mutilating psoriatic arthritis, in whom the withdrawal of cyclosporin A induced a generalized pustular exacerbation and aggravation of the joint condition. Two weekly injections of 25 mg of etanercept led to a rapid improvement of the psoriatic arthritis, as well as regression of the pustular eruption, while residual erythema was still present.[8]

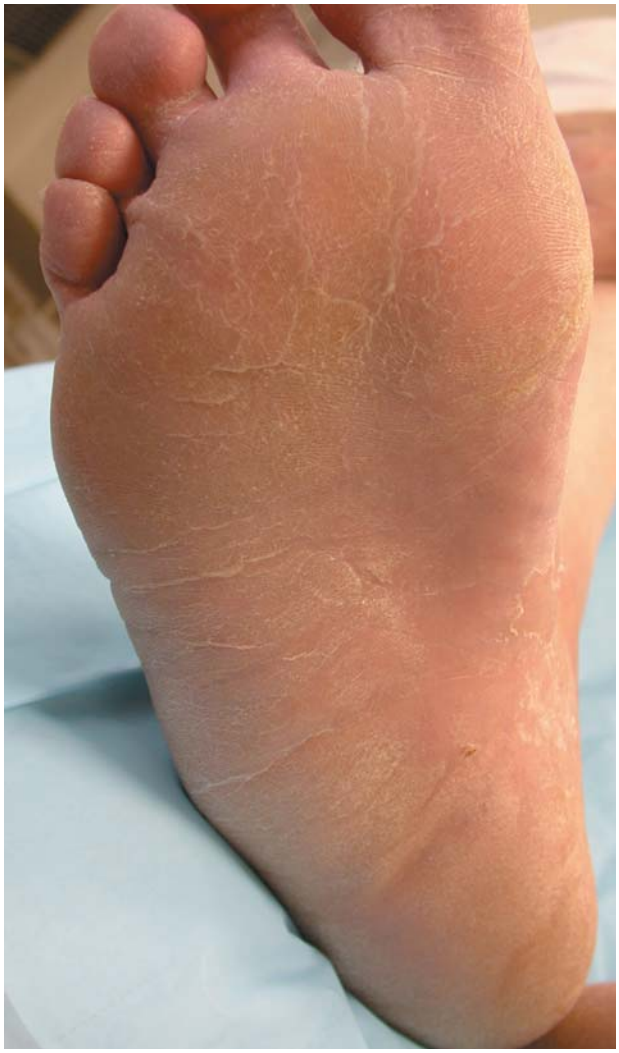

Figure 3. Mild to moderate scaling of the right sole in June 2003, with significant improvement from baseline.

Recently, results of a phase 3 study evaluating the efficacy and safety of etanercept in psoriasis were reported.[9] Etanercept was evaluated at doses of 25 mg (n=162) and 50 mg (n=164) subcutaneously twice weekly. At the 25-mg dose, 34% of patients achieved PASI 75 at 12 weeks and 49% at 24 weeks. At the 50-mg dose, 49% of patients achieved PASI 75 at 12 weeks and 59% at 24 weeks. Therapy with etanercept was generally well tolerated.[9]

To my knowledge, this is the first reported case of etanercept used specifically to treat disease limited to the palms and soles. Given the chronicity and resistance to treatment of this entity, it is helpful to have a new treatment option. Further clinical experience will help to further elucidate the use of this therapy.

REFERENCES

1. Marsland AM, Griffiths CE. Treatments for chronic palmoplantar pustular psoriasis. *Skin Therapy Lett.* 2001;6:3-5.
2. Lassus A, Geiger JM. Acitretin and etretinate in the treatment of palmoplantar pustulosis: a double-blind comparative trial. *Br J Dermatol.* 1988;119:755-759.
3. Layton AM, Sheehan-Dare R, Cunliffe WJ. A double-blind, placebo-controlled trial of topical PUVA in persistent palmoplantar pustulosis. *Br J Dermatol.* 1991;124:581-584.
4. Matsunami E, Takashima A, Mizuno N, et al. Topical PUVA, etretinate, and combined PUVA and etretinate for palmoplantar pustulosis: comparison of therapeutic efficacy and the influences of tonsillar and dental focal infections. *J Dermatol.* 1990;17:92-96.
5. Weinberg JM, Saini R. Biologic therapy for psoriasis: the tumor necrosis factor inhibitors infliximab and etanercept. *Cutis.* 2003;71:25-29.
6. Gottlieb AB, Matheson R, Lowe NJ, et al. Efficacy of Enbrel in patients with psoriasis [abstract]. *J Invest Dermatol.* 2002;119:234.
7. Iyer S, Yamauchi P, Lowe NJ. Etanercept for severe psoriasis and psoriatic arthritis: observations on combination therapy. *Br J Dermatol.* 2002;146:118-121.
8. Kamarashev J, Lor P, Forster A, et al. Generalised pustular psoriasis induced by cyclosporin a withdrawal responding to the tumour necrosis factor alpha inhibitor etanercept. *Dermatology.* 2002;205:213-216.
9. Leonardi C, Gottlieb AB, Zitnik R. Efficacy and safety of Enbrel (etanercept) in patients with psoriasis: results of a phase 3 study. Poster presented at: International Investigative Dermatology 2003; April 30-May 4, 2003; Miami Beach, Fla. Poster 0409.