Severe Hidradenitis Suppurativa Treated With Infliximab Infusion

David R. Adams, MD, PharmD; Kenneth B. Gordon, MD; Attila G. Devenyi, MD; Michael D. Ioffreda, MD; Penn State Hershey Medical Center, Hershey, Pa (Drs Adams and Ioffreda), Northwestern University, Chicago, Ill (Dr Gordon), and Regional Gastroenterology Associates of Lancaster, Ltd, Lancaster, Pa (Dr Devenyi)

The Cutting Edge: Challenges in Medical and Surgical Therapeutics

REPORT OF A CASE

A 17-year-old male patient with a 3-year history of hidradenitis suppurativa presented to our dermatology clinic for more effective treatment. Areas of involvement included the medial aspect of the thighs, scrotum, buttocks, and inframammary folds. His axillae were spared. He also had a pilonidal cyst and nodulocystic acne. A diagnosis of hidradenitis suppurativa was rendered. The patient’s symptoms included groin and perineal pain, serous and purulent discharge, and malodor. His primary care physician had been treating him with prednisone (5 mg twice a day) for more than 2 years and cephalexin (500 mg twice a day) for 2 weeks. He also had ulcerative colitis, which had been diagnosed 4 months earlier, that was controlled with sulfasalazine (1 g three times a day) and azathioprine (50 mg/d). He took supplemental iron and folic acid (1 mg/d) for anemia.

He had presented as diabetic ketoacidosis 4 months before he was seen in our dermatology office. At that time, his diabetes was treated with insulin and rosiglitazone maleate (4 mg twice a day). Six weeks later, his insulin therapy was discontinued, and metformin hydrochloride therapy (500 mg/d) was initiated. He also took potassium, magnesium, and calcium supplements.

Figure 1A shows his groin at the initial visit. The prednisone therapy had caused significant adverse effects, including a cushingoid appearance, obesity (weight, 80.4 kg), striae, gynecomastia, and diabetes mellitus, which had presented as diabetic ketoacidosis 4 months before he was seen in our dermatology office. At that time, his diabetes was treated with insulin and rosiglitazone maleate (4 mg twice a day). Six weeks later, his insulin therapy was discontinued, and metformin hydrochloride therapy (500 mg/d) was initiated. He also took potassium, magnesium, and calcium supplements.

Figure 1. A. Patient at initial presentation to the dermatology clinic. Black arrows indicate draining ulcers and sinus tracts; white arrow indicates a fluctuant nodule. B. At 6 ½ months after the first infusion, there is complete healing in the area of the medial aspect of the thighs, but there is a new lesion in the left pubic area that appeared 5 months after the initial infusion.
THERAPEUTIC CHALLENGE

Treatment of hidradenitis suppurativa is difficult and often ineffective. Therapeutic intervention is aimed at decreasing bacterial overgrowth, treating infection, and diminishing pain, drainage, and odor. Our patient was experiencing substantial symptoms and sought treatment that was more effective than systemic corticosteroids. He had consulted another dermatologist, who had recommended surgery. Despite the use of anti-inflammatory medications, including prednisone, azathioprine, and cephalexin, his condition worsened.

Two of us (D.R.A. and M.D.I.) had previously treated other patients with hidradenitis suppurativa who had responded poorly to therapy with oral and topical antibiotics and isotretinoin. With this in mind, and because of the severity of our patient’s disease, an alternative treatment was sought. Infliximab (Remicade) was chosen based on a report in the gastroenterology literature and because one of us (K.B.G.) had used infliximab therapy successfully in another patient.

Infliximab has been approved by the Food and Drug Administration for the treatment of Crohn disease. Our patient’s gastroenterologist (A.G.D.) agreed to treat the patient’s hidradenitis suppurativa with infliximab because of his experience with this medication and because of his capacity to administer intravenous therapy in his practice setting. Before treatment began, a negative purified protein derivative test result was confirmed. The patient received 3 infliximab infusions (5 mg/kg) at 0, 2, and 6 weeks. He had no adverse effects during or after the infusions. At a follow-up appointment 5 weeks after the first infusion, there was complete resolution of the pain and tenderness, purulence, drainage, and odor in his groin and perineal region, and the inflammation was greatly decreased. At 5 months after the first infliximab infusion, he experienced a localized recurrence in the left pubic area, but photographs taken at 6½ months demonstrated continued healing in the medial aspect of both thighs, which had previously been the most severely affected sites (Figure 1B). The infected nodule in the pubic area persisted for approximately 2 months, at which time the patient received a fourth infliximab infusion, with a good response documented 1 month later. Cultures were not obtained from the nodule. Figure 2 shows the morphological appearance of the lesions in the right groin area before infliximab therapy (Figure 2A) and at 5 weeks (Figure 2B) and 6½ months (Figure 2C) after the first infliximab treatment. Since the infliximab infusions appeared to induce disease remission, maintenance topical or oral therapy for the hidradenitis was not initiated. Our plan is to treat disease flares with infliximab, if not contraindicated, with the hope of inducing a long-term remission.

Hidradenitis suppurativa is a chronic inflammatory disease of follicular occlusion in apocrine gland–bearing areas, ie, the anogenital regions and axillae. It is characterized by recurrent abscesses, scarring, and sinus tract formation. Bacterial overgrowth is a common secondary process. Historically, treatment with oral antimicrobial agents, topical clindamycin, isotretinoin, systemic and intralesional corticosteroids, and surgery has been inconsistently effective. Other reported interventions include methotrexate, acitretin, hormonal therapy with cyproterone acetate and ethinyl estradiol in female patients, cyclosporine, and carbon dioxide laser. Hidradenitis suppurativa has been associated with high morbidity, spondyloarthropathy, and carcinoma, including squamous cell and verrucous carcinoma, arising in lesional sites. A Swedish study found that patients with hidradenitis suppurativa have an increased risk of developing nonmelanoma skin cancer. Herein, we describe a patient with severe hidradenitis suppurativa that did not respond to prednisone, azathioprine, or cephalexin therapy; however, after 2 infusions of infliximab, he had complete relief of his groin and perineal symptoms and significant improvement in the appearance of the affected area. He experienced a complete remission for 5 months, at which time he developed a focal recurrence in the pubic area. A fourth infliximab infusion was administered approximately 2 months after the recurrence. The persistent inflamed nodule in the pubic area resolved within a couple of weeks of a single infusion.

Infliximab is a chimeric IgG antibody that binds tumor necrosis factor α, thus preventing its proinflammatory biological effects. It is composed of human-derived constant regions and mouse-derived variable regions. It is available for infusion and was approved by the Food and Drug Administration in 1998 for treatment of Crohn disease and, more recently, rheumatoid arthritis. It has also been advocated for the treatment of numerous in-

Figure 2. The medial aspect of the right thigh is shown before and during therapy. A, Patient at initial presentation. B, At 5 weeks after the first infliximab infusion, there is decreased erythema, healing of the ulcers, and diminution of the fluctuant area. C, At 6½ months after the initial infliximab treatment, the right medial thigh area shows complete resolution, with only some residual scarring and postinflammatory hyperpigmentation.
A detailed search of the literature failed to reveal an association between ulcerative colitis and hidradenitis suppurativa. However, the coexistence of Crohn disease and hidradenitis suppurativa is well known.13 A case report of a 30-year-old woman with both Crohn disease and axillary and perianal hidradenitis suppurativa that were resistant to usual therapy was treated with 2 infusions of infliximab (5 mg/kg per dose) and azathioprine (2.5 mg/kg per day). After the first dose, there was significant improvement in the axillary and perianal areas. During the second infusion, the patient experienced a “generalized erythematous eruption” and dyspnea, which abated after discontinuation of the infusion. After the second dose, the patient had nearly complete resolution of the lesions and was still in remission at the 6-month follow-up visit.5

Another case report described a 30-year-old man with fistulizing Crohn disease and axillary hidradenitis suppurativa that were resistant to methylprednisolone, azathioprine, and isotretinoin therapy; he was then treated with infliximab, with a very good response. After 2 years, the hidradenitis had practically disappeared, leaving only scars.14

Infliximab infusion may prove to be a reasonable option for treating resistant severe hidradenitis suppurativa. A purified protein derivative test is recommended before therapy to avoid reactivation of latent tuberculosis. It must be administered in a controlled setting with personnel who are knowledgeable of, and able to respond to, adverse effects, particularly anaphylaxis. Another concern is the potential immunogenicity of infliximab's anti–tumor necrosis factor antibody, which can result in the formation of human antichimeric antibodies, as well as autoantibodies, rarely causing drug-induced lupus.15,16 The risk of forming human antichimeric antibodies may be mitigated by the coadministration of immunosuppressive agents. Other potential adverse effects of anti–tumor necrosis factor therapies include delayed hypersensitivity reactions and the risk of lymphoproliferative disease.15,16 To determine if infliximab is a worthwhile and safe therapy for hidradenitis suppurativa, additional experience is needed.

Accepted for publication May 2, 2003.

The authors have no relevant financial interest in this article.

Corresponding author: David R. Adams, MD, PharmD, Department of Dermatology, Penn State Hershey Medical Center, UPCII, Suite 4300, 500 University Dr, Hershey, PA 17033 (e-mail: dadams@psu.edu).

REFERENCES