Letters

RESEARCH LETTER

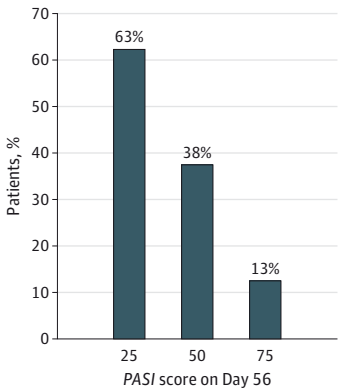
Open-Label Trial of MABp1, a True Human Monoclonal Antibody Targeting Interleukin 1α, for the Treatment of Psoriasis

MABp1is a true human monoclonal antibody specific for interleukin 1α (IL-1α), a key proinflammatory cytokine involved in sterile inflammation that is abundantly present in psoriatic skin lesions.[1] MABp1 differs from previous generations of therapeutic antibodies in that it was cloned from an Epstein-Barr virus–immortalized human B cell that was isolated from an individual with endogenous anti-IL-1α antibodies, and it has not undergone any in vitro affinity maturation.[2] Thus, there is potential for decreased antidrug antibody formation, which should lead to a profile of fewer adverse effects and less loss of effectiveness over time.[3]

Methods | Institutional review board approval was obtained before study initiation (clinicaltrials.gov Identifier: NCT01384630). Patients gave written consent before enrollment. Patients with a minimum Psoriasis Area and Severity Index (PASI) score of 12 and an affected body surface area of 5% were eligible to be enrolled in this open label, single-arm trial. Eight patients with a mean (SD) baseline PASI score of 13.8 (1.3) were enrolled; 5 patients had moderate to severe disease and 3 had moderate disease, as determined by a 7-point Physician Global Assessment.[4] All patients were required to have discontinued prior systemic or phototherapies for 4 weeks (or 5 half-lives, which ever was longer) and topical therapies 2 weeks before initiation of treatment. Patients received 200 mg of MABp1 as a monotherapy, via subcutaneous administration, every 3 weeks and were followed up to day 56 to assess clinical efficacy through PASI scores and to day 70 to assess terminal pharmacokinetics. This trial was conducted from February 2012 until December 2012.

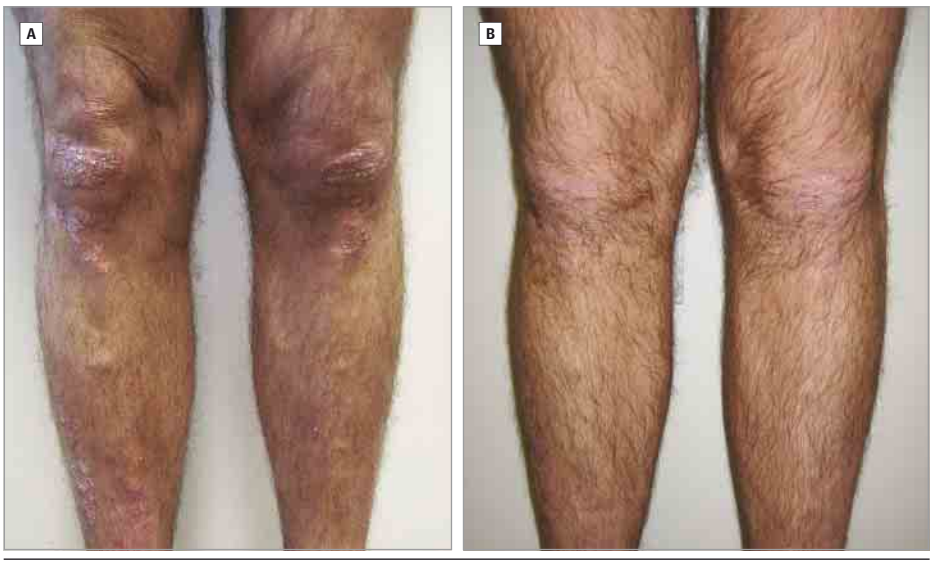
Results | Plasma MABp1 concentration was determined using a proprietary enzyme-linked immunosorbent assay and human anti-MABp1 humoral responses were assessed with a qualitative sandwich enzyme-linked immunosorbent assay. The half-life of the antibody was 8 days, and no antidrug antibodies were detected. There were few adverse events reported, and all were grade 1 (mild). Of these, only a single ad-

Figure 1. Psoriasis Area and Severity Index Scores



Percentage of patients whose Psoriasis Area and Severity Index scores had improved to 25, 50, or 75 on day 56.

Figure 2. Resolution of Psoriatic Plaques on a Patient's Knees



This patient's Psoriasis Area and Severity Index Score improved to 75. A, Day zero (before treatment). B, Day 42 (before the third dose).

verse event was likely to be directly related to therapy, a grade 1 injection-site reaction. Complete blood cell counts and serum chemistry analyses were assessed at every visit, and no clinically significant abnormalities were identified.

By day 56, 5 of 8 patients (63%) had an improved PASI score of 25, 3 of 8 (38%) had a PASI score of 50, and 1 of 8 (13%) had a PASI score of 75 (**Figure 1**). The mean (SD) PASI score decreased from 12.4 (2.9) at day zero to 8.1 (3.4) on day 56 (P = .02). Of the individual PASI components, erythema was affected most during this study, with a mean (SD) reduction of 36% (14%) noted on day 56 (P = .03). **Figure 2** shows a clinical response from a patient who achieved a PASI score of 75.

Discussion | Although this study is limited by its small size and lack of a control group, the clinical responses and high tolerability that were observed are encouraging. With a half-life of 8 days and a dosage schedule of every 3 weeks, a steady-state concentration was not achieved. As with currently approved biological agents used to treat psoriasis, which are given in intervals of about 1 half-life for each drug, we anticipate that an increased dosage frequency may result in higher PASI responses.

No anti-MABp1 antibodies were detected during the study period. This is consistent with observations that used MABp1 in a larger study of patients with cancer.[5] Although a larger dermatology cohort will be required to confirm this finding, the lack of antidrug antibodies in this population may lead to improved long-term results and fewer adverse effects.

Although this study has certain limitations, treatment with MABp1 showed a promising therapeutic response in patients with psoriasis. We anticipate that the clinical responses observed in this trial can be further improved with increased dosage frequency and/or a higher dose. The results presented here indicate that targeting IL-1α has a strong potential therapeutic value in treating psoriasis and may provide a novel future treatment of this often devastating disease.

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Study concept and design: Coleman, Gudjonsson.
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Drafting of the manuscript: All authors.
Critical revision of the manuscript for important intellectual content: Coleman, Gudjonsson.
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Implementation of Store-and-Forward Teledermatology and Its Associated Effect on Patient Access in a Veterans Affairs Dermatology Clinic

Dermatology is one of the specialties in the US Department of Veterans Affairs (VA) health care system that has the highest demand. To address this issue, many VA facilities have implemented the use of store-and-forward teledermatology (SFT). At the beginning of 2013, the VA Medical Center in Tampa, Florida, implemented the broader use of SFT services to improve veteran access to dermatologic care. In previous studies, SFT has been proven to decrease time to intervention[1,2] and decrease clinic-based visits.[1,3,4] However, its effect on patient access to the main dermatology clinic (MDC) has been less well studied. To determine if SFT is positively associated with improved patient access to the MDC, we retrospectively compared January 1 through May 31, 2012, during which SFT was not being heavily used, with January 1 through May 31, 2013, when SFT was fully implemented. In 2012, there were 1557 new patient clinic visits and 28 SFT encounters. In 2013, there were 1508 new patient clinic visits and 608 SFT encounters.

Methods | The research service at the James A. Haley Veterans' Hospital (Tampa, Florida) deemed this project to qualify as a quality assurance and quality improvement activity; hence, this study was exempt from institutional review board approval. The clinical database was queried for percentage of no-shows, average new and established patient wait times, capacity, and percentage of new patients being seen within 30 days. Variables were compared for the 2 time intervals using the unpaired t test. The effect of completed consultations on each variable was determined using linear regression and analysis of variance. Significance was set at $P < .05$. Statistical analysis was performed using Microsoft Excel Data Analysis software (Microsoft Corp).

Results | There was a significant decrease in the percentage of no-shows (7.91% to 6.16%, t = 3.87; $P < .002$) and new patient wait times (32.9 days to 9.75 days, t = 17.05; $P < .001$) between the 2 time periods, but not for established patient wait times