Long-term Efficacy and Safety of Brodalumab in Patients With Psoriasis Disease Duration <10 and ≥10 Years: Analysis of Two Phase 3 Studies

Benjamin Ehst,[1] George Han,[2] Scott Guenthner,[3] Kimberly Eads,[4] Abby Jacobson[5]

[1]Oregon Medical Research Center, Portland, OR; [2]Icahn School of Medicine at Mount Sinai, New York, NY; [3]The Dermatology Center of Indiana, Plainfield, IN; [4]The Indiana Clinical Trials Center, PC, Plainfield, IN; [5]Ortho Dermatologics (a division of Bausch Health US, LLC), Bridgewater, NJ

INTRODUCTION

- Brodalumab is a fully human anti–interleukin-17 receptor A monoclonal antibody that is efficacious in treating moderate-to-severe plaque psoriasis[1]
- Evidence from studies of other biologics indicates that shorter disease duration may predict higher skin clearance rates

OBJECTIVE

- To characterize the relationship between psoriasis duration and brodalumab efficacy and safety

METHODS

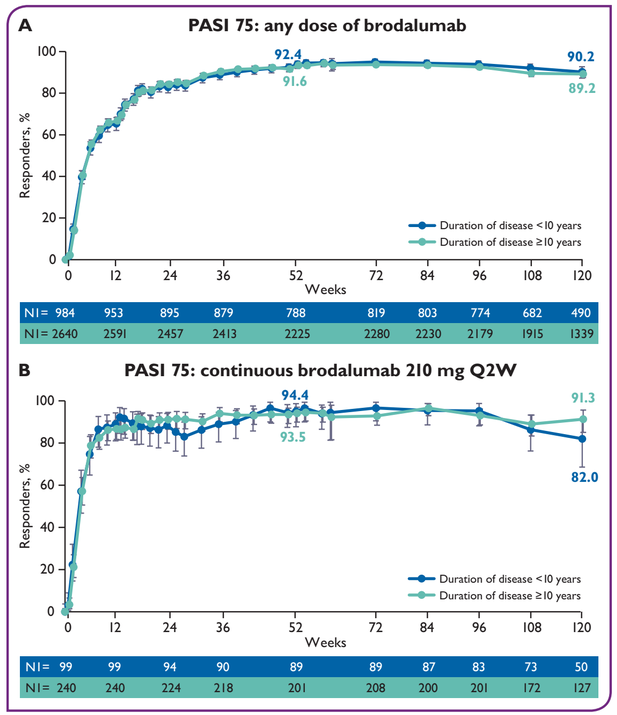
- Data were derived from two phase 3, multicenter, randomized clinical trials (AMAGINE-2/-3)[2]
- In both studies, patients with moderate-to-severe plaque psoriasis were initially randomized to brodalumab every 2 weeks (Q2W), ustekinumab, or placebo
- At week 52, all patients entered the long-term extension and received brodalumab
- In this post hoc analysis, skin clearance was assessed by 75% and 100% improvement in psoriasis area and severity index from baseline (PASI 75 and PASI 100, respectively) responses for patients who received any dose of brodalumab during the study and those who received continuous brodalumab 210 mg Q2W through week 120
- Patients were stratified by psoriasis duration at baseline (<10 years and ≥10 years)
- Safety was summarized by exposure-adjusted rates of treatment-emergent adverse events (TEAEs) for patients in both groups

RESULTS

Efficacy

- Overall, 72.8% of patients receiving any dose of brodalumab (N=3625) and 70.8% receiving continuous brodalumab 210 mg Q2W (N=339) had disease duration ≥10 years
- In an observed analysis at week 52, for patients receiving any dose of brodalumab, 91.6% with disease duration ≥10 years and 92.4% with disease duration <10 years achieved PASI 75 (Figure 1A)
  - PASI 75 response rates for patients receiving continuous brodalumab 210 mg Q2W were similar (≥10 years, 93.5%; <10 years, 94.4%; Figure 1B)
- At 120 weeks, patients receiving any dose of brodalumab and those receiving continuous brodalumab 210 mg Q2W achieved similar rates of PASI 75 response regardless of disease duration (Figure 1)

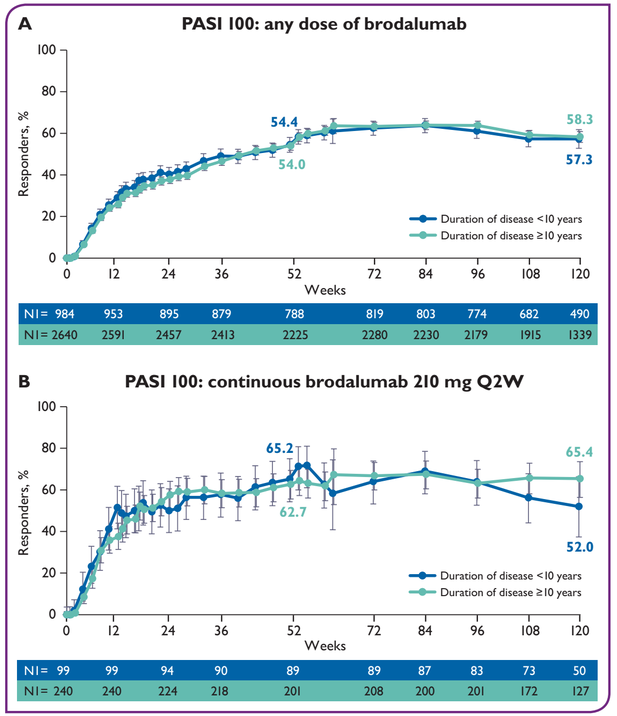
Figure 1. PASI 75 responses through week 120 in patients who received **(A)** any dose of brodalumab or **(B)** continuous brodalumab 210 mg Q2W by disease duration subgroup.



Observed data analysis. Error bars are the 95% confidence interval. NI, number of patients who had a valid measurement at the specified week; PASI 75, psoriasis area and severity index 75% improvement; Q2W, every 2 weeks.

- Observed PASI 100 responses at week 52 for patients with disease duration ≥10 years and <10 years were 54.0% and 54.4%, respectively, for patients receiving any dose of brodalumab and 62.7% and 65.2%, respectively, for patients receiving continuous brodalumab 210 mg Q2W (Figure 2)
- At week 120, 58.3% of patients receiving any dose of brodalumab with disease duration ≥10 years and 57.3% of patients with disease duration <10 years achieved PASI 100 (Figure 2)
  - PASI 100 response rates for patients receiving continuous brodalumab 210 mg Q2W were similar at week 120 (disease duration ≥10 years, 65.4%; disease duration <10 years, 52.0%)

Figure 2. PASI 100 responses through week 120 in patients who received **(A)** any dose of brodalumab or **(B)** continuous brodalumab 210 mg Q2W by disease duration subgroup.



Observed data analysis. Error bars are the 95% confidence interval. NI, number of patients who had a valid measurement at the specified week; PASI 100, psoriasis area and severity index 100% improvement; Q2W, every 2 weeks.

Safety

- For all study years, slightly higher rates of TEAEs were observed in those with disease duration ≥10 years compared with disease duration <10 years (Table 1)
  - The rate of serious adverse events was similar between subgroups

Table 1. Exposure-Adjusted Rates of TEAEs in Patients Who Received ≥1 Dose of Brodalumab

Preferred term, n (exposure-adjusted event rate per 100 patient-years)	Duration of psoriasis	
	<10 years (N=984; 1742.5 PY)	≥10 years (N=2640; 4787.0 PY)
All TEAEs	4836 (277.5)	14,764 (308.4)
Grade ≥2	2558 (146.8)	7838 (163.7)
Grade ≥3	210 (12.1)	610 (12.7)
Serious AEs	110 (6.3)	371 (7.8)
Fatal AEs[a]	1 (0.1)	2 (<0.1)

AE, adverse event; n, number of AEs; N, number of patients; PY, total patient-years of exposure through the end of the study; TEAE, treatment-emergent AE. [a]The 3 fatal AEs were 1 sudden death (cause undetermined), 1 cardiac arrest (267 days on brodalumab; event occurred 7 days after last dose), and 1 accidental death (motor vehicle accident).

CONCLUSION

- **Brodalumab is efficacious and well tolerated in patients with moderate-to-severe psoriasis regardless of disease duration**

Acknowledgments:

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