##

Brodalumab Provides Rapid Onset of Therapeutic Response for Patients With Moderate-to-Severe Psoriasis

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OBJECTIVE

- **To characterize the time to response of brodalumab by directly comparing brodalumab with ustekinumab or placebo in clinical studies and by indirectly comparing brodalumab with other psoriasis biologics**

CONCLUSIONS

- **Onset of response was more rapid than other psoriasis biologics in direct and indirect comparisons**
- **Brodalumab provides a safe and effective treatment option, with rapid onset of symptom relief and improvements in quality of life, for adult patients with moderate-to-severe psoriasis**

SYNOPSIS

- Several factors should be considered when selecting the most appropriate treatment of moderate-to-severe psoriasis, including drug effectiveness, potential adverse events, and time to response[1]
- The human anti–interleukin-17 receptor A monoclonal antibody brodalumab has been shown to be safe and effective for moderate-to-severe psoriasis in adults and improves clinical outcomes more rapidly than other psoriasis biologics[2]

METHODS

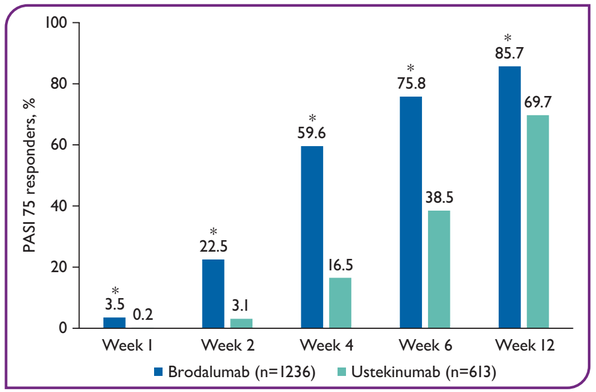
- This post hoc analysis directly compares time to response of brodalumab vs ustekinumab or placebo in three phase 3 studies (AMAGINE-1/-2/-3), measured by the following:
  - Psoriasis area and severity index (PASI) responses from baseline (AMAGINE-2/-3)[3]
  - Psoriasis symptom improvement, assessed with the psoriasis symptom inventory (PSI; AMAGINE-2/-3); for the PSI, patients rank the severity of 8 symptoms (itch, redness, scaling, burning, cracking, stinging, flaking, and pain) on a 5-point scale ranging from 0 (not at all) to 4 (very severe), and individual item scores are combined for a total score ranging from 0 to 32[4]
  - Changes in patient-reported quality of life, assessed with the dermatology life quality index (DLQI; AMAGINE-1/-2/-3)[5]
- Time to onset of therapeutic response of brodalumab is also indirectly compared with that of other psoriasis biologics[6]

RESULTS

Clinical studies of brodalumab (AMAGINE-1/-2/-3)

- Significant differences in speed of efficacy between brodalumab and ustekinumab were seen as early as week 1, in which 3.5% of brodalumab-treated patients achieved ≥75% reduction from baseline in PASI (PASI 75), vs 0.2% of ustekinumab-treated patients (*P*<0.001; AMAGINE-2/-3; Figure 1)[3]
  - Median times to achieve PASI 25, PASI 50, or PASI 75 (Table 1) and median times for 50% of patients to achieve PASI 75, PASI 90, or PASI 100 were significantly shorter with brodalumab vs ustekinumab (*P*<0.001 for all analyses)[3,7]

Figure 1. PASI 75 responders through week 12 among patients treated with brodalumab or ustekinumab in AMAGINE-2/-3.[3]



PASI 75, ≥75% reduction from baseline in psoriasis area and severity index. *P<0.001.

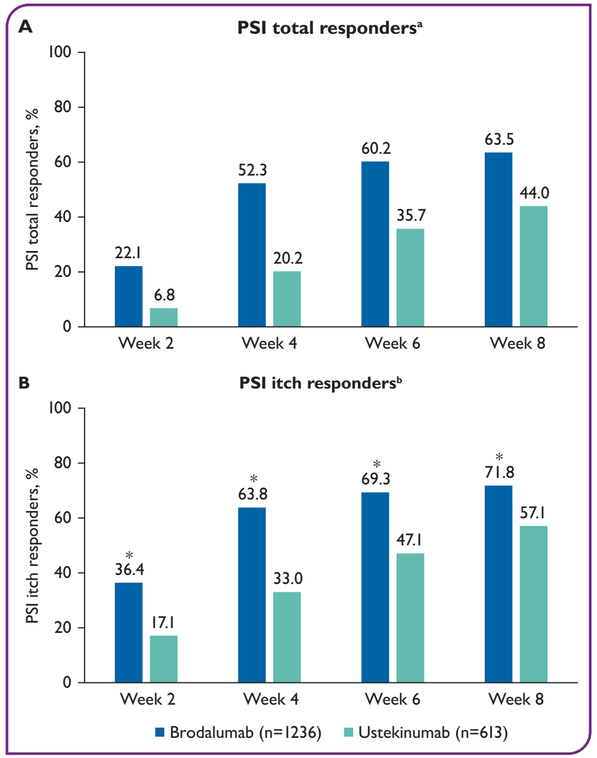
Table 1. Median Times to Achieve Therapeutic Response (AMAGINE-2/-3)

Median time, weeks	Brodalumab (n=1236)	Ustekinumab (n=613)	*P* value
Time to achieve PASI 75	4.2	9.4	<0.0001
Time to achieve PASI 50	1.8	4.5	<0.0001
Time to achieve PASI 25	0.8	1.8	<0.0001

PASI 25, 50, and 75, ≥25%, ≥50%, or ≥75% reduction from baseline in psoriasis area and severity index.

- Brodalumab treatment was associated with greater proportions of PSI total responders (defined as weekly average PSI total score ≤8, with no item scores >1) and PSI itch responders (defined as weekly average PSI itch score ≤1; *P*<0.0001) vs ustekinumab, indicating a rapid reduction in patient-reported symptom severity (AMAGINE-2/-3; Figure 2)[8]
  - Additionally, a significantly greater proportion of patients treated with brodalumab vs ustekinumab achieved a PSI total score of 0 at week 12 (22.7% vs 13.4%; *P*<0.001)[8]

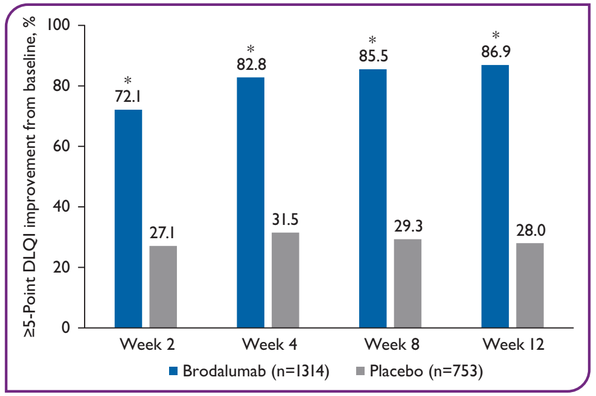
Figure 2. Brodalumab treatment was associated with a faster onset of symptom improvement, assessed via proportion of PSI responders, vs ustekinumab[8] in AMAGINE-2/-3 for **(A)** PSI total score and **(B)** PSI itch score.



PSI, psoriasis symptom inventory. [a]Defined as weekly average PSI total score ≤8, with no item scores >1. [b]Defined as weekly average PSI itch score ≤1. *P<0.0001.

- Significant improvements in quality-of-life measures (≥5-point DLQI improvement from baseline) were seen as early as week 2 among patients treated with brodalumab vs placebo (*P*<0.001; AMAGINE-1/-2/-3; Figure 3)[9]
  - Furthermore, complete skin clearance with brodalumab was associated with greater improvements in DLQI; 60.9% of patients who achieved PASI 100 attained a DLQI score of 0 at week 12, vs 20.5% of patients who achieved PASI 75 to <90[3,9]

Figure 3. Patients treated with brodalumab experienced rapid improvement in quality of life in AMAGINE-1/-2/-3.



DLQI, dermatology life quality index. *P<0.001.

Indirect comparison of brodalumab and other psoriasis biologics

- In an indirect comparison, brodalumab treatment resulted in faster time to response (mean time for 50% of patients to achieve PASI 90) than other psoriasis biologics, including ixekizumab and secukinumab (6.2 vs 7.4 and 16.3 weeks, respectively; Table 2)[6]

Table 2. Indirect Comparison of Time to Response[6]

Proportion of patients achieving PASI, weighted mean (SD) time, weeks	Brodalumab	Ixekizumab	Secukinumab
Time for 50% to achieve PASI 90	6.2[a]	7.4 (0.7)	16.3 (6.2)
Time for 25% to achieve PASI 100	6.9 (0.9)	8.1 (1.2)	15.1 (0.4)

PASI 90 and 100, ≥90% or 100% reduction from baseline in psoriasis area and severity index. [a]Only one study cohort.

Funding: This study was sponsored by Ortho Dermatologics. Medical writing support was provided by MedThink SciCom and funded by Ortho Dermatologics. Ortho Dermatologics is a division of Bausch Health US, LLC.

Author disclosures: AA, **ML**, and **LSG** report the following financial disclosures related to the presentation: serving as a research investigator, speaker, or scientific advisor for Ortho Dermatologics (a division of Bausch Health US, LLC). **AJ** is an employee of Ortho Dermatologics (a division of Bausch Health US, LLC).

References: 1. Thibodeaux et al. *SKIN The Journal of Cutaneous Medicine*. 2019;3:368-373. **2.** Lebwohl et al. *N Engl J Med*. 2015;373:1318-1328. **3.** Blauvelt et al. *J Am Acad Dermatol*. 2017;77:372-374. **4.** Gordon et al. *Br J Dermatol*. 2014;170:705-715. **5.** Wu. *Am J Manag Care*. 2017;23(21 suppl):S403-S416. **6.** Egeberg et al. *J Eur Acad Dermatol Venereol*. 2020;34:39-46. **7.** Blauvelt et al. Slides presented at: Annual Meeting of the American Academy of Dermatology; March 3-7, 2017; Orlando, FL. **8.** Gottlieb et al. *J Eur Acad Dermatol Venereol*. 2018;32:1305-1313. **9.** Data on file, Ortho Dermatologics (a division of Bausch Health US, LLC).

Previous presentation information: Data included in this poster have been previously presented in full at the 2nd Annual Innovations in Dermatology Fall Conference; November 3-5, 2022; Virtual and Las Vegas, NV.