Low Uveitis Rates in Patients with Axial Spondyloarthritis Treated with Bimekizumab: Pooled Results from Phase 2b/3 Trials

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Objective

To compare incidence of uveitis events in patients treated with placebo or bimekizumab 160 mg every four weeks in the phase 3 axial spondyloarthritis trials BE MOBILE 1 and 2 to Week 16.

To evaluate incidence of uveitis events in patients with axial spondyloarthritis using pooled data from the phase 2b (BE AGILE) and the phase 3 BE MOBILE 1 and 2 trials.

Background

- Acute anterior uveitis ('uveitis'), or 'iritis'/'iridocyclitis', is a common extra-musculoskeletal manifestation of axial spondyloarthritis (axSpA).[1] Interleukin (IL)-17 has been implicated in the pathogenesis of uveitis; however, current data on the efficacy of IL-17A inhibition in axSpA-related uveitis have been conflicting.[2]
- Here, we evaluate the incidence of uveitis events in patients with axSpA following inhibition of IL-17F in addition to IL-17A with bimekizumab (BKZ).

Methods

- The phase 3 studies BE MOBILE 1 (NCT03928704; non-radiographic [nr]-axSpA) and 2 (NCT03928743; radiographic [r]-axSpA) comprised a 16-week double-blind treatment period (DBTP; subcutaneous BKZ 160 mg every four weeks [Q4W] or placebo) followed by a 36-week maintenance period (all patients received BKZ 160 mg Q4W).[3]
  - Patients were permitted to have a history of uveitis but not within six weeks of the baseline visit.
  - Upon entry to the ongoing BE MOVING open-label extension (OLE; [NCT04436640; cut-off 4 July 2022]) at Week 52, all patients remained on BKZ 160 mg Q4W.
- The phase 2b study BE AGILE (NCT02963506; r-axSpA) comprised a 12-week double-blind, dose-ranging period followed by a 36-week randomised period (BKZ 160 or 320 mg Q4W).[4]
  - Upon entry to the BE AGILE OLE (NCT03355573; cut-off 4 July 2022) at Week 48, all patients received BKZ 160 mg Q4W.
- Data were pooled for all patients who received at least one dose of BKZ 160 mg Q4W in the phase 2b/3 trials, and separately for patients randomised to BKZ or placebo in the DBTP of BE MOBILE 1 and 2.
- Uveitis treatment-emergent adverse events (TEAEs) were reported as incidence, exposure adjusted incidence rates (EAIRs) and exposure adjusted event rates (EAERs) per 100 patient years (PY). EAIR is the incidence of new cases per 100 PY, and EAER is the total number of events per 100 PY.

Results

- Baseline characteristics of the axSpA study populations are shown in **Table 1**. A higher proportion of patients treated with BKZ 160 mg Q4W (63.3% and 71.2%) had r-axSpA than placebo (46.8%).

Uveitis in the DBTP of BE MOBILE 1 and 2

- During the DBTP, at least one uveitis TEAE occurred in 11/237 (4.6%) patients randomised to placebo and 2/349 (0.6%) patients randomised to BKZ (% difference [95% CI]: 4.07 [1.71, 7.60] **Figure 1**). Incidence rates are presented in **Figure 2**.
  - In these patients, 13 uveitis events occurred in 11 patients randomised to placebo (EAER/100 PY: 17.8). Three uveitis events occurred in two patients randomised to BKZ (EAER/100 PY: 2.8).
  - In patients with history of uveitis, uveitis TEAEs occurred in 9/45 (20.0%) patients randomised to placebo, compared with 1/52 (1.9%) randomised to BKZ.
  - In patients without history of uveitis, uveitis TEAEs occurred in 2/192 (1.0%) patients randomised to placebo, compared with 1/297 (0.3%) randomised to BKZ.
- Of those randomised to BKZ, no patients discontinued due to uveitis TEAEs; two patients randomised to placebo discontinued due to uveitis TEAEs (both in BE MOBILE 1).

Uveitis in Pooled Phase 2b/3 axSpA Trials

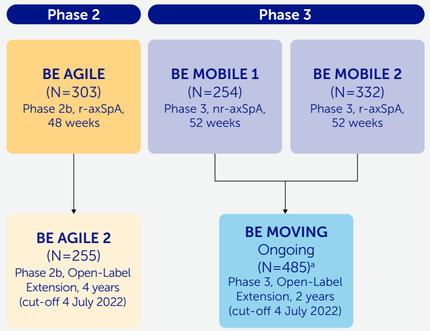
- Total BKZ exposure was 2,034.4 PY (N=848).
- Uveitis TEAEs occurred in 25/848 (2.9%) patients overall (34 events, EAER/100 PY: 1.7).
  - Uveitis TEAEs occurred in 14/130 (10.8%) patients with history of uveitis (17 events, EAER/100 PY: 5.3).
  - Uveitis TEAEs occurred in 11/718 (1.5%) patients without history of uveitis (17 events, EAER/100 PY: 1.0). Incidence rates are presented in **Figure 3**.
- All uveitis TEAEs were mild/moderate, one event led to permanent discontinuation of BKZ.

Conclusions

The incidence rate of uveitis TEAEs was lower to Week 16 in patients with axSpA randomised to bimekizumab 160 mg Q4W vs placebo. In a large pool of phase 2b/3 data, the incidence rate of uveitis with bimekizumab 160 mg Q4W over a long duration, 2,034.4 PY, remained low at 1.2/100 PY. Previous history of uveitis correlated with higher incidence of uveitis TEAEs.

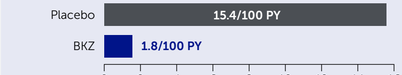
Summary

This analysis evaluated incidence rates of **uveitis events** in patients treated with **bimekizumab** using pooled **phase 2b/3 axSpA** trial data



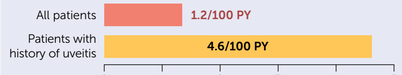
Phase 3 DBTP pooled analysis (BKZ: n=349, 108.6 PY; placebo: n=237, 73.0 PY)

EAIR of uveitis was lower to Week 16 in all patients with axSpA randomised to BKZ 160 mg Q4W vs placebo in the DBTP of BE MOBILE 1 and 2



Phase 2b/3 pooled analysis (N=848, 2,034.4 PY)

EAIR of uveitis was low in patients treated with BKZ 160 mg Q4W in BE AGILE and BE MOBILE 1 and 2



Overall, from pooled phase 2b/3 data, **uveitis rates** in patients with axSpA treated with **bimekizumab** were **low**

[a]Estimated enrolment.

Table 1 Baseline characteristics

	Pooled phase 3 axSpA		Pooled phase 2b/3 axSpA
	Placebo (n=237)	BKZ 160 mg Q4W (n=349)	BKZ 160 mg Q4W (n=848)
Age, years, mean (SD)	38.8 (12.1)	40.0 (11.8)	40.3 (11.9)
Male, n (%)	145 (61.2)	233 (66.8)	606 (71.5)
HLA-B27 positive, n (%)	187 (78.9)	294 (84.2)	717 (84.6)[a]
Race, n (%)			
American Indian/Alaskan Native	0	0	1 (0.1)
Asian	33 (13.9)	52 (14.9)	84 (9.9)
Black	2 (0.8)	2 (0.6)	3 (0.4)
White	200 (84.4)	286 (81.9)	746 (88.0)
Other/mixed	1 (0.4)	4 (1.1)	8 (0.9)
Missing	1 (0.4)	5 (1.4)	6 (0.7)
r-axSpA, n (%)	111 (46.8)	221 (63.3)	604 (71.2)
Symptom duration, years, mean (SD)	10.3 (8.9)	12.4 (10.5)	12.4 (9.9)
History of uveitis, n (%)	45 (19.0)	52 (14.9)	130 (15.3)
Baseline concomitant csDMARDs, n (%)	51 (21.5)	77 (22.1)	197 (23.2)

[a]Six patients had missing HLA-B27 status at baseline.

Figure 1 DBTP (Weeks 0–16) of BE MOBILE 1 and 2: incidence of uveitis TEAEs

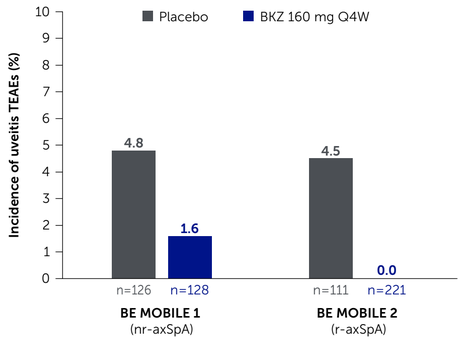
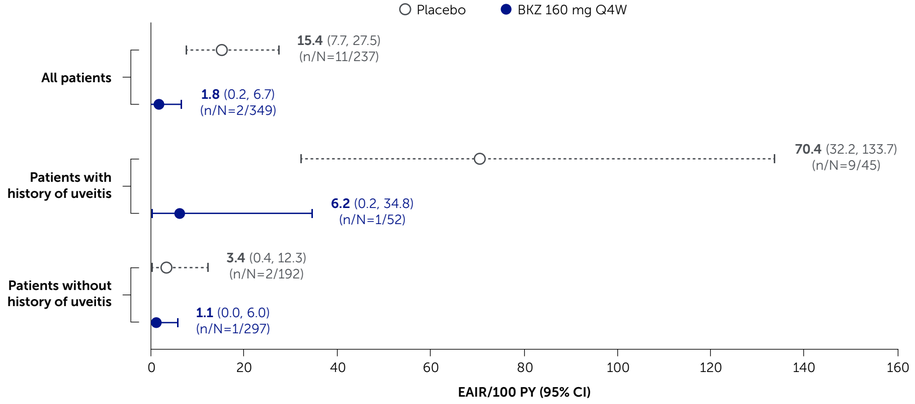
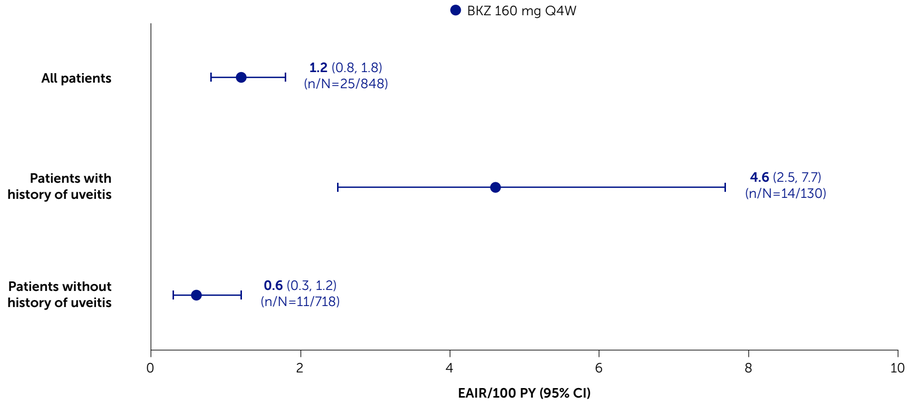


Figure 2 DBTP (Weeks 0–16) of BE MOBILE 1 and 2: incidence rates of uveitis TEAEs (EAIR/100 PY [95% CI])



n/N is the number of patients who had at least one uveitis TEAE/total number of patients.

Figure 3 Pooled Phase 2b/3: incidence rates of uveitis TEAEs (EAIR/100 PY [95% CI])



n/N is the number of patients who had at least one uveitis TEAE/total number of patients.

axSpA: axial spondyloarthritis; **BKZ:** bimekizumab; **CI:** confidence interval; **csDMARD:** conventional synthetic disease-modifying antirheumatic drug; **DBTP:** double-blind treatment period; **EAER:** exposure adjusted event rate **EAIR:** exposure adjusted incidence rate; **HLA-B27:** human leukocyte antigen B27; **IL:** interleukin; **nr-axSpA:** non-radiographic axSpA; **OLE:** open-label extension; **PY:** patient years; **Q4W:** every 4 weeks; **r-axSpA:** radiographic axSpA; **SD:** standard deviation; **TEAE:** treatment-emergent adverse event.

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References: [1]Robinson PC. Arthritis Rheumatol. 2015;67(1):140–51; [2]Dick AD. J. Opthalmol 2013;120(4):777–87; [3]Baraliakos X. Arthritis Rheumatol 2022;74 (suppl 9); [4]van der Heijde D. Ann Rheum Dis 2020;79:595–604. **Author Contributions:** Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: **MR, MAB, FAcG, NH, LSG, CF, AM, UM, NdP, TV, KW, AD, IHB.** Drafting of the publication, or revising it critically for important intellectual content: **MR, MAB, FAcG, NH, LSG, CF, AM, UM, NdP, TV, KW, AD, IHB.** Final approval of the publication: **MR, MAB, FAcG, NH, LSG, CF, AM, UM, NdP, TV, KW, AD, IHB.** **Author Disclosures: MR:** Speakers bureau from AbbVie, Boehringer Ingelheim, Chugai, Eli Lilly, Janssen, Novartis, Pfizer and UCB Pharma; consultant of AbbVie, Eli Lilly, Novartis and UCB Pharma. **MAB:** Grant/research support from UCB Pharma; consultant for Clementia, Grey Wolf Therapeutics, Incyte, Ipsen, Pfizer, Regeneron and Xinthera; speaker for Novartis. **FAcG:** Grants from Jacobus Stichting, Novartis, Stichting ASAS, Stichting Vrienden van Sole Mio and UCB Pharma; fees from Novartis; personal fees from AbbVie, BMS, Eli Lilly and MSD. **NH:** Consultant for AbbVie, Eli Lilly, Janssen, Novartis and UCB Pharma. **LSG:** Consultant for AbbVie, Acelyrin, Eli Lilly, Fresenius Kabi, Gilead, Janssen, MoonLake, Novartis, Pfizer and UCB Pharma; grant/research support from Novartis and UCB Pharma paid to institution. **CF, AM, UM, TV, NdP:** Employees of UCB Pharma. **KW:** Employee and shareholder of UCB Pharma. **AD:** Speaker for Janssen, Novartis and Pfizer; consulting fees from AbbVie, Amgen, Aurinia, BMS, Celgene, Eli Lilly, Janssen, MoonLake, Novartis, Pfizer and UCB Pharma; research grants from AbbVie, BMS, Celgene, Eli Lilly, Janssen, Novartis, Pfizer and UCB Pharma. **IHB:** Consultant for Abbvie, Lilly, MSD, Novartis and UCB Pharma; unrestricted grants received for investigator-initiated studies from AbbVie, MSD, Pfizer and UCB Pharma; fees received for Lectures from AbbVie, BMS, MSD and Pfizer. **Acknowledgements:** We would like to thank the patients and their caregivers in addition to all the investigators and their teams who contributed to this study. The authors acknowledge Celia Menckeberg, UCB Pharma, for publication coordination, Patrick Cox, BSc, Costello Medical, London, UK for medical writing and editorial assistance, and the Costello Medical Creative team for design support. These studies were funded by UCB Pharma. All costs associated with development of this presentation were funded by UCB Pharma.

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