Bimekizumab infection rates in patients with moderate to severe plaque psoriasis: Analysis of pooled data from 2 years of treatment in phase 3 and 3b clinical trials

Presented at the 42nd Annual Fall Clinical Dermatology Conference | Las Vegas, NV | October 20–23, 2022

Objective
To report long-term infection rates in patients with moderate to severe plaque psoriasis receiving Bimekizumab (BKZ) 320 mg every four weeks (Q4W) or every eight weeks (Q8W), pooled to include 2 years of treatment across five phase 3/3b trials, the largest two-year data pool for BKZ in plaque psoriasis.

Introduction
• BKZ, a fully humanized IgG2 antibody that selectively inhibits interleukin-17A in addition to IL-17F, is a biologic disease-modifying therapy for plaque psoriasis requiring long-term management; therefore, it is important to assess the long-term safety of treatments, including infection rates.

Materials and Methods
• Rates of infection for treatment-emergent adverse events (TEAEs) over a two-year period were evaluated for all patients who received ≥1 BKZ dose in ≥3 trials, RADIANT 1, 2, 3, 4, or BE RADIANT (data cut-off: April 20, 2021).†, ‡
• Rates of infection TEAEs were also evaluated separately for patients who were receiving BKZ doses 320 mg Q4W or Q8W at the time of the TEAE.
• TEAEs were coded using MedDRA, Medical Dictionary for Regulatory Activities v10.
• Data were pooled for all patients who received ≥1 BKZ dose in BE SURE, BE SURE EXTEND, BE SURE LT EXTEND, and BE RADIANT (data cut-off: December 15, 2019).§

Results
Overall infection rates decreased over Year 2 relative to Year 1 and were lower in Q4W–versus Q8W–treated patients (Table 2).

Materials and Methods
Rates of infection for treatment-emergent adverse events (TEAEs) over a two-year period were evaluated for all patients who received ≥1 BKZ dose in ≥3 trials, RADIANT 1, 2, 3, 4, or BE RADIANT (data cut-off: April 20, 2021).†, ‡
• Rates of infection TEAEs were also evaluated separately for patients who were receiving BKZ doses 320 mg Q4W or Q8W at the time of the TEAE.
• TEAEs were coded using MedDRA, Medical Dictionary for Regulatory Activities v10.
• Data were pooled for all patients who received ≥1 BKZ dose in BE SURE, BE SURE EXTEND, BE SURE LT EXTEND, and BE RADIANT (data cut-off: December 15, 2019).§

Results
• Overall infection rates decreased over Year 2 relative to Year 1 and were lower in Q4W–versus Q8W–treated patients (Table 2).
• The most common infections seen with BKZ were nasopharyngitis, oral candidiasis, and upper respiratory tract infections (Table 2).
• No cases of active tuberculosis were reported over the two-year period.

Serious infections
• Rates of serious infections were low across BKZ-treated patients (Table 3).
• The most common serious infections were appendicitis and cellulitis, four events each occurred.

Fungal infections
• The majority of fungal infections were Candidia infections, most of which were oropharyngeal (Table 4).
• Rates of oral candidiasis were lower in Q4W–versus Q8W–treated patients (Figure 2).
• Cumulative two-year rates were lower than rates for Year 1 (Table 4).
• One case each, representing 0.1% of patients, were patients experiencing oral candidiasis events. In patients who experienced such events, most had either one or two events.
• The vast majority of oral candidiasis events occurred over two years (98.3%) were mild or moderate.
• Five BKZ–treated patients discontinued BKZ due to oral candidiasis in Year 1 versus none in Year 2; no BKZ–treated patients discontinued due to oral candidiasis.

Opportunistic infections
• Rates of opportunistic infections were low (Table 4); almost all were localized mucocutaneous fungal infections pre-defined as opportunistic by company convention.
• Except for the above included one serious case each of ophthalmic herpes zoster (resolved with treatment; did not lead to discontinuation) and systemic candidiasis (resolved; patient discontinued following the event and associated gatifloxacin and prednisone therapy).

Conclusions
• On average two years of BKZ treatment, EARI rates of infection TEAEs and pre-defined infections of interest, including candidiasis, were low and consistent across all studies.
• BKZ demonstrated a favorable safety profile with low rates of discontinuation due to infections across all studies.

Table 1
Overall infection rates

<table>
<thead>
<tr>
<th>Treatment</th>
<th>EARI/100 PY (95% CI)</th>
<th>Year 1 (n=2,186)</th>
<th>Year 2 (n=1,576)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BKZ</td>
<td>13.3 (11.3, 15.5)</td>
<td>19.9 (18.0, 21.9)</td>
<td>13.0 (11.8, 14.3)</td>
</tr>
</tbody>
</table>

Table 2
Most common infections

<table>
<thead>
<tr>
<th>Infection</th>
<th>Year 1 (n=2,186)</th>
<th>Year 2 (n=1,576)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasopharyngitis</td>
<td>5.5 (4.5, 6.6)</td>
<td>2.9 (2.5, 3.3)</td>
</tr>
<tr>
<td>Oral candidiasis</td>
<td>1.4 (1.0, 1.8)</td>
<td>1.7 (1.3, 2.3)</td>
</tr>
<tr>
<td>Upper respiratory tract infections</td>
<td>1.1 (0.6, 1.8)</td>
<td>1.0 (0.5, 1.7)</td>
</tr>
</tbody>
</table>

Table 3
Serious infections

<table>
<thead>
<tr>
<th>Infection</th>
<th>Year 1 (n=2,186)</th>
<th>Year 2 (n=1,576)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendicitis</td>
<td>0.2 (0.1, 0.3)</td>
<td>0.2 (0.1, 0.4)</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>0.2 (0.1, 0.3)</td>
<td>0.2 (0.1, 0.3)</td>
</tr>
</tbody>
</table>

Table 4
Fungal infections

<table>
<thead>
<tr>
<th>Infection</th>
<th>Year 1 (n=2,186)</th>
<th>Year 2 (n=1,576)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral candidiasis</td>
<td>0.8 (0.6, 1.0)</td>
<td>0.4 (0.3, 0.6)</td>
</tr>
<tr>
<td>Candida infections</td>
<td>3.7 (3.1, 4.3)</td>
<td>2.9 (2.5, 3.4)</td>
</tr>
</tbody>
</table>

Table 5
Summary of treatment exposure

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Total exposure, PY</th>
<th>Year 1 exposure, PY (n)</th>
<th>Year 2 exposure, PY (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BKZ</td>
<td>116.8 (110.6, 123.1)</td>
<td>58.4 (55.3, 61.6)</td>
<td>58.4 (55.3, 61.6)</td>
</tr>
</tbody>
</table>

Data were pooled for all patients who received ≥1 BKZ dose in RADIANT 1, 2, 3, 4, and BE RADIANT (data cut-off: April 20, 2021).†, ‡
• Rates of infection TEAEs were also evaluated separately for patients who were receiving BKZ doses 320 mg Q4W or Q8W at the time of the TEAE.
• TEAEs were coded using MedDRA, Medical Dictionary for Regulatory Activities v10.
• Data were pooled for all patients who received ≥1 BKZ dose in BE SURE, BE SURE EXTEND, BE SURE LT EXTEND, and BE RADIANT (data cut-off: December 15, 2019).§
• Rates of opportunistic infections were low (Table 4); almost all were localized mucocutaneous fungal infections pre-defined as opportunistic by company convention.
• Except for the above included one serious case each of ophthalmic herpes zoster (resolved with treatment; did not lead to discontinuation) and systemic candidiasis (resolved; patient discontinued following the event and associated gatifloxacin and prednisone therapy).

Conclusions
On average two years of BKZ treatment, EARI rates of infection TEAEs and pre-defined infections of interest, including candidiasis, were low and consistent across all studies.

BKZ demonstrated a favorable safety profile with low rates of discontinuation due to infections across all studies.

Rates of discontinuation due to infections were low.

There were no new safety findings with long-term exposure to BKZ.

Previously presented at SPIN 2022