One-Year Pharmacovigilance Update of Brodalumab

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SYNOPSIS

- Efficacy and safety of brodalumab, a fully human anti–interleukin-17 receptor A monoclonal antibody, have been demonstrated in one phase 2 and three phase 3 trials (AMAGINE-1/2-3)1
- There are limited data on the effects of brodalumab treatment in a real-world setting

OBJECTIVE

- To report an update of brodalumab 1-year pharmacovigilance in the United States (August 15, 2017–August 14, 2018)

METHODS

- Observational data were collected for US patients who received brodalumab (N=826) and reported an adverse event (AE) through routine pharmacovigilance reporting from healthcare providers and patients
- AEs were categorized by Medical Dictionary for Regulatory Activities preferred term and system organ class, seriousness, and (company-determined) causality
- Brodalumab exposure was estimated by first shipment date to last dose date plus 55 days (ie, 5 half-lives of brodalumab)
- AEs were summarized with descriptive statistics and as exposure-adjusted rates per patient-year (PY)
- The analysis was performed on January 11, 2019, for all reports between August 15, 2017, and August 14, 2018

RESULTS

Most commonly reported AEs

- The most commonly reported AEs were psoriasis flare, drug ineffectiveness, arthralgia, depression, diarrhea, and pain (Table I)
- Of 9 patients reporting diarrhea, 4 were taking other medications that could potentially cause gastrointestinal upset
- Of 9 patients reporting pain, 4 had a history of joint or muscle pain and 4 experienced pain <4 weeks after brodalumab initiation
- Among 11 patients reporting depression, 4 discontinued brodalumab and 2 had a history of depression (mental health history was not provided in 6 reports); no events of depression were serious

Table I. Summary of Most Common Adverse Events Reported in the US Pharmacovigilance Monitoring of Brodalumab (August 15, 2017–August 14, 2018)

<table>
<thead>
<tr>
<th>AE</th>
<th>Event, n (%)</th>
<th>Estimated weeks of brodalumab treatment, mean (min-max)*</th>
<th>Event related to brodalumab, n</th>
<th>Discontinuation, n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psoriasis flare</td>
<td>26 (0.12)</td>
<td>10.8 (1.7-30.1)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Drug ineffectiveness</td>
<td>18 (0.08)</td>
<td>15.5 (1.7-52.1)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Arthralgia</td>
<td>16 (0.07)</td>
<td>4.1 (0.4-10.0)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Depression</td>
<td>11 (0.05)</td>
<td>14.9 (1.0-35.3)</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>9 (0.04)</td>
<td>6.5 (0.4-12.9)</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Pain</td>
<td>9 (0.04)</td>
<td>5.7 (0.1-12.9)</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

Pсориasis flare included the MedDRA categories of “psoriasis,” “condition aggravated,” and “ill-defined disorder.” Drug ineffectiveness included the MedDRA categories of “drug ineffective” and “drug ineffective for unapproved indication.” Depression included the MedDRA categories of “depression,” “depressive symptoms,” and “depressed mood.” Pain included the MedDRA categories of “pain” and “pain in extremity.” Duration (weeks) of brodalumab treatment was estimated by calculating the number of days from the reported start of brodalumab treatment to the reported end of treatment. Patients whose start or end date was unknown were excluded from the calculation. AE, adverse event; max, maximum duration; min, minimum duration; r, exposure-adjusted rate per patient-year

EXPOSURE-ADJUSTED ADVERSE EVENTS OF INTEREST PER PATIENT-YEAR

- One nonserious event of oral fungal Candida infection was reported in which brodalumab was discontinued and symptoms resolved
- A nonserious event of vulvovaginal mycotic Candida infection was reported in which brodalumab was maintained and symptoms resolved

Figure I. Exposure-adjusted adverse events of interest per patient-year.

CONCLUSIONS

- One-year pharmacovigilance reporting for brodalumab revealed that the most commonly reported AE was psoriasis flare
- Few patients receiving brodalumab reported depression, and none reported serious fungal infections, suicide attempts, or completed suicides

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