An Oral, Selective Tyrosine Kinase 2 Inhibitor, Deucravacitinib (BMS-986165), Reduced Absolute Psoriasis Area and Severity Index in a Phase 2 Trial in Psoriasis

Introduction

- Plateau psoriasis is a debilitating, chronic, immune-mediated skin disorder that requires patients’ health-related quality of life (HRQoL) and productivity
- Treatment outcomes for plaque psoriasis based on the Absolute Psoriasis Area and Severity Index (Psoriasis Area and Severity Index) are indicative of an individual patient’s disease severity and treatment response at the time of analysis
- Absolute Psoriasis Area and Severity Index (Psoriasis Area and Severity Index) values can be more clinically meaningful than percentage change in Psoriasis Area and Severity Index from baseline captured by scores such as Psoriasis Area and Severity Index 75 (Psoriasis Area and Severity Index 75) or Psoriasis Area and Severity Index (Psoriasis Area and Severity Index) 50 (Psoriasis Area and Severity Index 50) from baseline to endpoint
- Although a consensus therapeutic target has yet to be defined, a recent analysis reported that attainment of an absolute Psoriasis Area and Severity Index 50 translates to meaningful improvements in clinical and HRQoL outcomes
- Previous studies have demonstrated that an absolute Psoriasis Area and Severity Index 50 (Psoriasis Area and Severity Index 50) improvement from baseline, static Physician’s Global Assessment (Psoriasis Area and Severity Index) score of 0/1 (range, 0–72; higher scores indicate greater disease severity), and Dermatology Life Quality Index (DQI) of 0/1 (DQI; range, 0–30; higher scores indicate worse HRQoL)
- Diamant Thaçi, ‡ Matthew J. Colombo, ‡ Sudeep Kundu, ‡ Renata Kisa, ‡ Subhashis Banerjee

Materials and Methods

Inclusion criteria

- Adults with body mass index of 18–40 kg/m²
- Moderate to severe plaque psoriasis for >6 months affecting ≥10% of body surface area
- Psoriasis Area and Severity Index 12 (Psoriasis Area and Severity Index 12) or Psoriasis Area and Severity Index (Psoriasis Area and Severity Index) 12 (Psoriasis Area and Severity Index 12) score of ≥5 (range, 0–12; higher scores indicate greater disease severity)
- No prior use of biologic therapy

Exclusion criteria

- Diagnosis of non-psoriatic psoriasis or other immune-mediated disease at the time of evaluation
- History or evidence of specific infections (eg, HIV or hepatitis B or C or infection) or risk of tuberculosis
- Previous lack of response to any therapeutic agent targeting the T3-kinase 2 pathway (eg, interleukin-12/interleukin-23 pathways)

Treatment

- Patients were randomized equally to 1 of 5 dose groups of deucravacitinib (3 mg, 6 mg, or 12 mg QD) or matching placebo for 12 weeks

Study endpoints

- This post hoc analysis assessed the following efficacy endpoints in the 3 most effective deucravacitinib dose groups (3 mg QD, 6 mg QD, 12 mg QD) vs placebo:
  - Mean absolute Psoriasis Area and Severity Index over time
  - Mean change from baseline in absolute Psoriasis Area and Severity Index over time

Results

Baseline demographics and disease characteristics

- 179 patients were included in this post hoc analysis (deucravacitinib groups, n=134; placebo, n=45)
- Baseline demographics and disease characteristics of patients in each dose group are presented in Table 1

Absolute PASI

- Deucravacitinib was associated with greater reductions in mean percentage change from baseline in absolute Psoriasis Area and Severity Index than placebo (Week 12 vs Week 0) (Figure 2)

Absolute PASI was associated with lower absolute PASI compared with placebo up to Week 12 (Figure 1)

Table 1. Baseline demographics and disease characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Placebo (n=45)</th>
<th>Deucravacitinib</th>
<th>Placebo (n=45)</th>
<th>Deucravacitinib</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male sex, n (%)</td>
<td>17 (38)</td>
<td>34 (25)</td>
<td>21 (46)</td>
<td>13 (9)</td>
</tr>
<tr>
<td>Mean age, y</td>
<td>46 ± 17</td>
<td>45 ± 15</td>
<td>45 ± 15</td>
<td>47 ± 12</td>
</tr>
<tr>
<td>Body mass index, kg/m²</td>
<td>27 (20)</td>
<td>24 (26)</td>
<td>25 (29)</td>
<td>30 (26)</td>
</tr>
<tr>
<td>Body weight, kg</td>
<td>79 ± 21</td>
<td>84 ± 18</td>
<td>84 ± 19</td>
<td>88 ± 24</td>
</tr>
<tr>
<td>Mean absolute PASI, %</td>
<td>30 ± 6</td>
<td>28 ± 5</td>
<td>27 ± 5</td>
<td>26 ± 5</td>
</tr>
<tr>
<td>Absolute PASI at Week 12, %</td>
<td>48 ± 12</td>
<td>46 ± 15</td>
<td>45 ± 15</td>
<td>47 ± 12</td>
</tr>
</tbody>
</table>

Conclusion

- This post hoc analysis of the Phase 2 Trial compared the efficacy of deucravacitinib vs placebo based on Absolute Psoriasis Area and Severity Index over time up to Week 12

- The percentages of patients achieving absolute Psoriasis Area and Severity Index values of ≤1, ≤2, ≤3, and ≤5 at Week 12 were higher in the deucravacitinib groups than in the placebo group (Table 2)

Table 2. Absolute PASI at Week 12

<table>
<thead>
<tr>
<th>Absolute PASI</th>
<th>Placebo (n=45)</th>
<th>Placebo (n=45)</th>
<th>Deucravacitinib (3 mg QD)</th>
<th>Deucravacitinib (6 mg QD)</th>
<th>Deucravacitinib (12 mg QD)</th>
<th>Deucravacitinib combined (n=134)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASI 0</td>
<td>0</td>
<td>0</td>
<td>13 (9)</td>
<td>22 (16)</td>
<td>31 (23)</td>
<td>30 (23)</td>
</tr>
<tr>
<td>PASI 1 ≤ 1</td>
<td>0</td>
<td>0</td>
<td>27 (20)</td>
<td>51 (38)</td>
<td>67 (49)</td>
<td>57 (43)</td>
</tr>
<tr>
<td>PASI 2 ≤ 2</td>
<td>0</td>
<td>0</td>
<td>46 (34)</td>
<td>76 (57)</td>
<td>84 (63)</td>
<td>80 (60)</td>
</tr>
<tr>
<td>PASI 5 ≤ 5</td>
<td>0</td>
<td>0</td>
<td>69 (51)</td>
<td>94 (69)</td>
<td>97 (73)</td>
<td>94 (70)</td>
</tr>
</tbody>
</table>

- The percentages of patients achieving absolute Psoriasis Area and Severity Index values of ≤1, ≤2, ≤3, and ≤5 at Week 12 were higher in the deucravacitinib groups than in the placebo group (Table 2)

Acknowledgments

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References

- Bristol-Myers Squibb employees and shareholders of Bristol-Myers Squibb

Relationships and Activities

- Employees or shareholders of Bristol-Myers Squibb

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