INTRODUCTION

- Typical signs of plaque psoriasis include erythematous, scaly, well-demarcated plaques frequently associated with pain, itching, or burning that can have a negative effect on quality of life (QoL).

- Roflumilast cream (ARQ-151), a phosphodiesterase-4 (PDE-4) inhibitor, is under investigation as a once-daily topical treatment for patients with chronic plaque psoriasis.10

- In a randomized, double-blind, phase 2b trial of 113 adults with chronic plaque psoriasis, roflumilast cream administered once daily was superior to vehicle cream and led to achievement of clear or almost clear skin based on Investigator Global Assessment (IGA) at Week 6 (Figure 1A).11

- The effect of roflumilast cream on various patient-reported outcomes (PROs) measuring signs and symptoms burden and QoL was assessed as a secondary outcome in the phase 2b trial.

OBJECTIVE

- To assess the effect of roflumilast cream on patient-reported burden of signs and symptoms of psoriasis and on QoL.

RESULTS

- For the primary endpoint, superior efficacy was demonstrated for both dose levels of roflumilast cream in vehicle cream at Week 6 (Figure 2).

- Assessments of symptom and sign burden and QoL were comparable across treatment arms at baseline (Table 1).

METHODS

Study Design

- Design: parallel group, randomized, double-blind, vehicle-controlled phase 2b study.

- Location: 30 sites in the United States and Canada.

- Participants: adults with chronic plaque psoriasis (Psoriasis Area and Severity Index [PASI] 10).

- Eligibility: Disease of at least mild severity (score ≥2 on modified Psoriasis Area and Severity Index [Psoriasis Area and Severity Index (PASI)], total score ≥10), and scaling (PSD Item 12).

- Intervention: roflumilast cream 0.3%, 0.15%, or vehicle; once daily for 12 weeks.

- Primary endpoint: IGA of “Clear” or “Almost Clear” at Week 6 (Table 1).

- Assessments of Signs and Symptom Burden and QoL:

- Psoriasis Symptom Diary (PSD):
  - Total score: severity and report of psoriasis-related signs and symptoms over the past 24 hours.
  - Burden of individual signs and symptoms: IGA and PSD total score were observed with Week 4 through Week 12 and were maintained through Week 12.

- Dermatology Life Quality Index (DLQI):
  - Scores of ≥2 on the modified PASI or PSD Item 12

- Table 1. Baseline Assessments of PRO Measures

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<table>
<thead>
<tr>
<th>Variable</th>
<th>Roflumilast 0.3% (n=109)</th>
<th>Roflumilast 0.15% (n=113)</th>
<th>Vehicle (n=107)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 Total Score (SD)</td>
<td>5.8 (4.8)</td>
<td>5.7 (4.8)</td>
<td>7.5 (4.6)</td>
</tr>
<tr>
<td>Week 2 Total Score (SD)</td>
<td>4.1 (2.5)</td>
<td>4.0 (2.4)</td>
<td>5.7 (4.2)</td>
</tr>
<tr>
<td>Week 6 Total Score (SD)</td>
<td>1.1 (1.2)</td>
<td>1.2 (1.1)</td>
<td>3.1 (2.5)</td>
</tr>
<tr>
<td>Week 8 Total Score (SD)</td>
<td>0.7 (1.0)</td>
<td>0.7 (0.9)</td>
<td>2.3 (2.1)</td>
</tr>
<tr>
<td>Week 10 Total Score (SD)</td>
<td>0.3 (0.8)</td>
<td>0.3 (0.8)</td>
<td>2.0 (1.8)</td>
</tr>
</tbody>
</table>

Figure 2. Total PSD Score Over the Course of the Study

Week 2 Week 4 Week 6 Week 8 Week 10

Figure 3. Patients Achieving IGA of “Clear” or “Almost Clear” at Week 6 (Primary Endpoint)

Week 0 Week 4 Week 8 Week 12

Table 2. Summary of AEs

<table>
<thead>
<tr>
<th>AE</th>
<th>Roflumilast 0.3% (n=109)</th>
<th>Roflumilast 0.15% (n=113)</th>
<th>Vehicle (n=107)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with any AEs</td>
<td>97 (38.5)</td>
<td>88 (27.3)</td>
<td>57 (29.9)</td>
</tr>
<tr>
<td>Patients with any TEAEs</td>
<td>42 (38.5)</td>
<td>30 (27.3)</td>
<td>32 (29.9)</td>
</tr>
<tr>
<td>Patients with any treatment-related TEAEs</td>
<td>42 (38.5)</td>
<td>30 (27.3)</td>
<td>32 (29.9)</td>
</tr>
</tbody>
</table>

Figure 4. Change from Baseline in DLQI Scores

Week 0 Week 2 Week 4 Week 6 Week 8 Week 10 Week 12

Figure 5. Change in IGA of “Clear” or “Almost Clear” at Week 6

Week 0 Week 2 Week 4 Week 6 Week 8 Week 10 Week 12

Figure 6. Change From Baseline in PSID Scores

Week 0 Week 2 Week 4 Week 6 Week 8 Week 10 Week 12

CONCLUSIONS

- Roflumilast once-daily cream 0.3% and 0.15% showed significant improvement of plaque psoriasis severity measured by achievement of IGA “clear” or “almost clear.”

- Roflumilast cream demonstrated improvement in patient-reported burden of psoriasis signs and symptoms and QoL.

- The improvements in sign and symptom burden and QoL occurred soon after initiating treatment with both roflumilast cream doses and were maintained through Week 12.

- Roflumilast cream was well-tolerated and application site pain was uncommon and similar to vehicle.

REFERENCES


ACKNOWLEDGMENTS

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- The authors have no conflicts of interest to disclose.

- Table 2. Summary of AEs

- More patients discontinued the study due to AE in the vehicle group compared to the roflumilast group.

- Rates of application site pain were low and similar to vehicle.

- 97% of AEs were rated mild or moderate.

- Roflumilast cream, an investigational once-daily topical PDE-4 inhibitor, may be an effective, safe, and well-tolerated novel topical treatment for chronic plaque psoriasis with early onset of action.