Distribution of Improvements in Psoriasis Area and Severity Index from the Phase 2 Trial of Risankizumab in Moderate to Severe Plaque Psoriasis

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INTRODUCTION
• Risankizumab is a humanized IgG1 monoclonal antibody that inhibits IL-23 by binding its p19 subunit. In a phase 2 trial, risankizumab demonstrated superiority over ustekinumab in patients with moderate to severe plaque psoriasis.1
• Response rates derived from dichotomizing a continuous variable at a certain threshold (eg, 90% improvement in Psoriasis Area and Severity Index, PASI 90) are often used as primary endpoints in clinical trials to demonstrate efficacy of investigational products.
• However, additional visualization of the cumulative distribution of responses can help assess the consistency of PASI improvement at the population level.

OBJECTIVE
• The objective of this analysis was to examine the distribution of PASI responses in patients from the phase 2 trial treated with risankizumab versus ustekinumab.

MATERIALS & METHODS
STUDY DESIGN AND PATIENTS
• Patients (N=166) with moderate to severe plaque psoriasis were randomized to receive subcutaneous injections of risankizumab (18 mg single dose, 90 or 180 mg at weeks 0, 4, and 16) or ustekinumab (45 or 90 mg, based on body weight at weeks 0, 4, and 16, Figure 1).

Figure 1. Study Design of Phase 2 Trial of Risankizumab in Psoriasis Patients

EFFICACY ANALYSES
• The proportions of patients achieving different levels of PASI responses were assessed at weeks 12 and 16 in an intent-to-treat population.
• Patients with a missing assessment were counted as non-responders for that assessment.
• Cumulative probability plots were generated to assess the distribution of changes from baseline in PASI score across treatment groups.

RESULTS
• The proportions of patients achieving PASI 75, PASI 90, and PASI 100 responses are shown in Figure 2.
• At week 12, the proportions of patients achieving the primary end point of PASI 90 response were 30.2% (13/43), 71.2% (30/41), and 76.8% (13/17) for 18 mg risankizumab groups, respectively, compared with 40% (16/41) for ustekinumab-treated patients (Figure 2).1

Figure 2. PASI 75, PASI 90, and PASI 100 Response Rates Through Week 16 (NRI)

• Patients treated with 90 mg or 180 mg risankizumab achieved higher response rates across all levels of PASI improvement when compared with patients treated with 18 mg risankizumab (singledose) or ustekinumab (Figure 3).

Figure 3. Distribution of Changes in PASI Responses from Baseline at Weeks 12 and 16 (NRI)

• The cumulative probability plot demonstrated that patients treated with 90 or 180 mg risankizumab had a higher likelihood of achieving greater improvements from baseline in PASI score compared with patients treated with 18 mg risankizumab or ustekinumab (Figure 4).

Figure 4. Cumulative Probability of Percent Change from Baseline in PASI Scores at Weeks 12 and 16 (NRI)

• The overall improvements in PASI scores at weeks 12 and 16 were higher in patients treated with 90 or 180 mg risankizumab compared with ustekinumab.
• Patients treated with 90 or 180 mg risankizumab showed a greater shift in PASI distribution towards PASI 90-100 response rates compared with ustekinumab-treated patients.

DISCLOSURES
B Strober has received honoraria or fees for serving on advisory boards and as a speaker; he also consults for several investigative products. K Papp has received honoraria or fees for serving on advisory boards, as a speaker, as a consultant; he also has results from an investigator from AbbVie Inc., Amgen, Astellas, AstraZeneca, Basilea, Biotering, Boehringer Ingelheim, Bristol-Myers Squibb, Celgene, Dermira, Eli Lilly, Forward Pharma, Gedeon Richter, Genentech, GlaxoSmithKline, Janssen, Kyowa-Hakko Kirin, Leo Pharma, MedImmune, Merck Sharp & Dohme, Novartis, Pfizer, Regeneron, Roche, Sanofi-Aventis, Santhera, Sun Pharma, Teva, UCB, and Valeant.

REFERENCES