Deucravacitinib in plaque psoriasis: 3-year safety and efficacy results from the phase 3 POETYK PSO-1 and PSO-2 trials

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Study design

Two global phase 3 trials, POETYK PSO-1 (NCT03624127) and POETYK PSO-2, randomized 1:2:1 to oral placebo, open-label deucravacitinib (6 mg once daily [QD] for 16 weeks, followed by blinded deucravacitinib or placebo at Week 20), and blinded deucravacitinib (6 mg QD) in ≥1000 patients with moderate to severe plaque psoriasis who were candidates for systemic therapy. Deucravacitinib is approved in the US, Europe, and Japan for the treatment of adults with moderate to severe plaque psoriasis who are candidates for systemic therapy.

Deucravacitinib, an oral, selective, allosteric TYK2 inhibitor, is approved in the US, European Union, Japan, Australia, India, and several other regions. Deucravacitinib has ≥100-fold greater selectivity for TYK2 vs JAK1 and JAK3 across JAK family.

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Deucravacitinib demonstrated a consistent safety profile throughout the 3-year extension period, with no unexpected safety signals.

Objective

To report the safety and efficacy of deucravacitinib for up to 3 years (Week 148) through the study cutoff date (June 15, 2022) in patients with moderate-to-severe plaque psoriasis who participated in the POETYK PSO-1 and PSO-2 trials.

Methods

Study design

POETYK PSO-1 and PSO-2 were global, 52-week, phase 3, double-blind trials that randomized adults with moderate-to-severe plaque psoriasis 1:2:1 to oral, deucravacitinib 6 mg QD, or open-label 16 mg twice daily (BID) (Figure 2).

Patients randomized to placebo crossed over to deucravacitinib at Week 16.

At Week 52, eligible patients were allowed to enroll in the POETYK LTE trial and receive deucravacitinib 6 mg QD or open-label 16 mg BID (Figure 2).

Results

Patients

A total of 1314 patients received ≥1 dose of deucravacitinib across the parent trials POETYK PSO-1 and PSO-2. 843 patients were randomized to deucravacitinib in Week 16 of these 52-week trials and continued to receive oral deucravacitinib 6 mg QD at the parent trial cutoff date (Week 148). Baseline patient demographics and disease characteristics for the overall population are provided in Table 1.

Exposure

Exposure data through 36 months is shown in Table 2. Consistent with rates observed through 2 years, approximately 78% of the patients received ≥10 months of exposure. A total of 1519 patients received ≥1 dose of deucravacitinib across the parent trials.

Outcomes

Safety

The most common adverse events (AEs) were injection site reaction, upper respiratory tract infection, and nasopharyngitis (Table 3). The rate of discontinuations due to AEs was 2.4% (9/341) in the first 2 years and 2.8% (9/317) in the years 2020–2022 (Week 148).

Efficacy

PASI 90 results were not estimable at Weeks 1 and 2 using mNRI.

Clinical responses were maintained through 52 weeks in patients who received continuous deucravacitinib, and no new AEs of interest were reported in the years 2020–2022 (Week 148).

Table 4 summarizes the cumulative AEs through Week 148, with no unexpected safety signals or new AEs of interest.

Conclusions

Deucravacitinib demonstrated a consistent safety profile throughout 3 years, with no increase in all-cause rates over time and no emergence of new safety signals.

Efficacy was sustained through 3 years in patients treated continuously with deucravacitinib; no new AEs of interest were observed.

Clinical efficacy outcomes, including PASI 75, PASI 90, and PASI 100, were sustained in patients who were continuously treated with deucravacitinib through Week 148.

Efficacy results were consistent across several data imputation methods including observed values, TRF, and mNRI.

The findings support the safety and efficacy of deucravacitinib in plaque psoriasis, with improvements maintained over 3 years, consistent with rates observed through 2 years.