Deucravacitinib Performs Better Than a Placebo or Apremilast in a Randomized Double-Blind Study

When compared to apremilast or a placebo, deucravacitinib was more effective at treating moderate to severe plaque psoriasis.

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May 15, 2023 – In the phase 3 Program for Evaluation of Tyrosine Kinase 2 Inhibitor (POETYK) psoriasis second trial, deucravacitinib was more effective than apremilast and placebo at reducing the affected areas of moderate to severe plaque psoriasis by 75%. Apremilast and placebo only reduced the affected areas by 53% and 9.4%, respectively.

Bruce Strober, MD, PhD, of the Central Connecticut Dermatology Research Center in Cromwell, Connecticut, and colleagues published their findings in the September 14, 2022, online issue of the *Journal of the American Academy of Dermatology*.

“While efficacious oral systemic agents for plaque psoriasis are available, they have significant safety and/or tolerability concerns,” the authors of the study wrote.

Apremilast, a phosphodiesterase inhibitor, is currently the gold-standard treatment for plaque psoriasis. Deucravacitinib, on the other hand, is a tyrosine kinase 2 (TYK2) inhibitor that targets the TYK2 pseudokinase domain rather than the active catalytic domain. As a result of this selectivity, no other JAK proteins are inhibited, resulting in greater therapeutic benefits and a lower risk of adverse events for patients.

In the POETYK trial, adults over the age of 18 years with a Psoriasis Area and Severity Index (PASI) ≥12 were recruited for this randomized, double-blind study. These patients also had a static Physician's Global Assessment (sPGA) score of 3 or higher and psoriasis covering at least 10% of their body surface area. The study was conducted for 52 weeks at multiple centers.

Patients were given one of three treatments: a daily 6 mg dose of deucravacitinib, a placebo, or a titration of apremilast starting at 10 mg daily and increasing to 30 mg twice daily over the course of five days (in accordance with prescribing recommendations).

At week 16, trial results revealed clinically significant improvements in psoriasis plaques. Relative to placebo, deucravacitinib improved the rate of patients with a 75% improvement in PASI and sPGA scores. Deucravacitinib significantly reduced PASI scores compared to apremilast or placebo, with 53.0% reporting improvement compared to 39.8% with apremilast ($P = .0004$). In the placebo group, PASI scores were at 9.4% ($P < .0001$). Nearly one-half of the deucravacitinib patients (49.5%) achieved an sPGA score of 0 or 1, outperforming both apremilast (33.3%) and placebo (8.6%) with a statistical significance of $P < .0001$.

Continuous use of deucravacitinib showed sustained efficacy for 52 weeks.

Deucravacitinib showed a promising safety profile in this trial. The most frequent adverse events associated with deucravacitinib in this trial were nasopharyngitis and upper respiratory infections. In

comparison, patients treated with apremilast were much more likely to experience headaches, diarrhea, and nausea.

The authors of this study concluded, “The overall safety profile of deucravacitinib, including a slight increase in the risk of nonserious viral infections, appears to be consistent with the mechanism of selective TYK2 inhibition. These findings suggest deucravacitinib has the potential to be an efficacious and well-tolerated, once-daily, oral treatment option for plaque psoriasis.”

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