Response to ritlecitinib with or without narrow band ultraviolet B (nbUVB) add-on therapy in patients with active non-segmental vitiligo (NSV)

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Introduction/Background: Ritlecitinib, a JAK3/TEC family kinase inhibitor, demonstrated efficacy in a Phase 2b trial of patients with NSV.

Objectives: To evaluate the efficacy and tolerability of ritlecitinib with or without nbUVB add-on therapy in patients with NSV.

Methods: In a Phase 2b trial, following a 24-week placebo-controlled dose-ranging period, patients with NSV received ritlecitinib 200 mg for 4 weeks then 50 mg for 20 weeks, with or without nbUVB phototherapy 2x/week. Missing data were handled using observed case (OC) and last observation carried forward (LOCF).

Results: 43 and 187 patients received ritlecitinib+nbUVB and ritlecitinib-monotherapy, respectively. Nine patients receiving ritlecitinib+nbUVB discontinued due to nbUVB group-specific efficacy criteria requiring >10% improvement in %change from baseline (CFB) in Total-Vitiligo Area Scoring Index (T-VASI) at Week 12. At Week 24, mean (90% CI) %CFB in Facial-
VASI (F-VASI) was -69.6 (-79.1, -60.1) vs -55.1 (-59.4, -50.7) (OC; P=0.009) and -57.0 (-65.3, -48.7) vs -51.5 (-55.9, -47.1) (LOCF; P=0.158), for ritlecitinib+nbUVB vs ritlecitinib-monotherapy, respectively. 60.9% (43.1%, 77.2%) vs 29.2% (22.8%, 35.9%) (OC; P=0.007) and 44.4% (30.2%, 59.1%) vs 27.4% (21.7%, 33.4%) (LOCF; P=0.081) of patients, respectively, achieved ≥75% improvement in F-VASI. Mean (90% CI) %CFB in T-VASI at Week 24 was -46.8 (-54.5, -39.2) vs -24.5 (-28.1, -21.0) (OC; P<0.001) and -29.4 (-36.5, -22.2) vs -21.2 (-25.0, -17.4) (LOCF; P=0.043) for ritlecitinib+nbUVB vs ritlecitinib-monotherapy, respectively. 50.0% (33.3%, 66.7%) vs 15.2% (11.1%, 20.3%) (OC; P<0.001) and 32.6% (22.1%, 44.7%) vs 14.4% (10.6%, 19.0%) (LOCF, P=0.014) of patients, respectively, achieved ≥50% improvement in T-VASI.

nbUVB addition to ritlecitinib was well-tolerated with no new safety signals.

**Conclusions:** Ritlecitinib alone and with nbUVB therapy improved facial and total body repigmentation and was well-tolerated. nbUVB may improve ritlecitinib efficacy.

**Keywords:** non-segmental vitiligo, narrow band ultraviolet B phototherapy, ritlecitinib, repigmentation

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