Impact of Previous Alopecia Areata Treatment on Efficacy Responses After 24 and 48 Weeks of Treatment With Ritlecitinib

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BACKGROUND

- Alopecia areata (AA) is an autoimmune disease with an underlying immunoinflammatory pathogenesis characterized by nonscarring hair loss on the scalp, face, and/or body[1]
- Patients with AA, particularly those with more extensive hair loss, often receive several therapies[2]
- In the ALLEGRO phase 2b/3 study, the oral JAK3/TEC family kinase inhibitor ritlecitinib demonstrated efficacy and acceptable safety over 48 weeks in patients with AA and ≥50% scalp hair loss[3]

OBJECTIVE

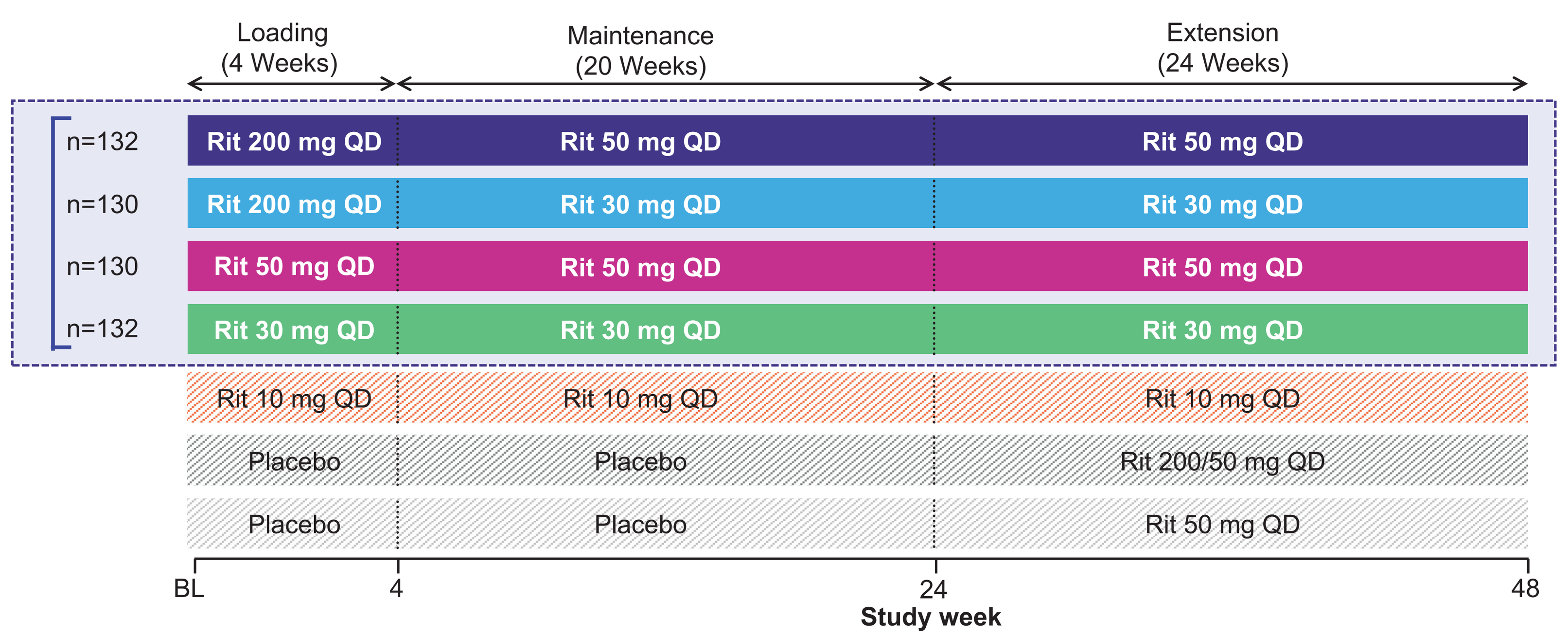
- This post hoc analysis of ALLEGRO-2b/3 examined the associations between prior use of AA therapies and hair regrowth responses in patients receiving ritlecitinib for AA

METHODS

Study design and patients

- Key inclusion criteria in ALLEGRO-2b/3:
  - Aged ≥12 years with a diagnosis of AA with ≥50% scalp hair loss due to AA (including AT and AU)
  - No evidence of terminal hair regrowth within 6 months at both the screening and baseline visits
  - Maximum duration of current episode of hair loss ≤10 years
- Exclusion criteria based on prior treatments included:
  - Patients with previous use of any JAK inhibitor or any non-B-cell selective lymphocyte-depleting agent were excluded
  - Intralesional corticosteroids (ILCS): could not have been received within 8 weeks of first dose of study drug
  - Systemic immunosuppressants: could not have received within 8 weeks of first dose of study drug
  - Topical immunotherapy: could not have received within 4 weeks of first dose of study drug
  - Other topicals: could not have received within 2-4 weeks of first dose of study drug (4 weeks for anthralin/dithranol)
- Patients included this post hoc analysis:
  - 522 patients from ALLEGRO-2b/3 who received ritlecitinib 30 mg or 50 mg daily, with or without a 200-mg loading dose (**Figure 1**)

Figure 1. ALLEGRO-2b/3 study design



AT, alopecia totalis; AU, alopecia universalis; QD, once daily; Rit, ritlecitinib.
Blue box indicates the treatment groups that were included in this analysis. The 10-mg dose was assessed for dose-ranging and pharmacokinetic purposes only, and was not included in this analysis.

Assessments and analysis

- Severity of Alopecia Tool (SALT) score ≤20 (≤20% scalp hair loss) and SALT score ≤10 at Weeks 24 and 48
- Patients were grouped by previous exposure to AA treatments
  - ILCS
  - Systemic immunosuppressants: oral immunosuppressants (azathioprine, ciclosporin, MTX), oral/IM/IV steroids, non-oral MTX
  - Topical immunotherapy: DPCP, DNCB
  - Other topicals: TCI, minoxidil, corticosteroids, anthralin, dithranol
  - Any prior AA treatment (any of the above)
- Multivariable logistic regression analyses evaluated the association between response based on SALT score ≤20 or SALT score ≤10 and any prior use of AA treatment, adjusting for patient and clinical covariates at Weeks 24 and 48
  - Covariates included: age, sex, race, BMI (continuous), episode duration (continuous), disease duration (continuous), extent of AA (AT/AU vs non-AT/AU), prior use of ILCS, prior use of systemic immunosuppressants, prior use of topical immunotherapy, prior use of topicals, Eyelash Assessment at baseline, Eyebrow Assessment at baseline, active shedding, and treatment arm.
  - Sensitivity analyses evaluated the impact of different model selection methods (forward, backward, and stepwise)

RESULTS

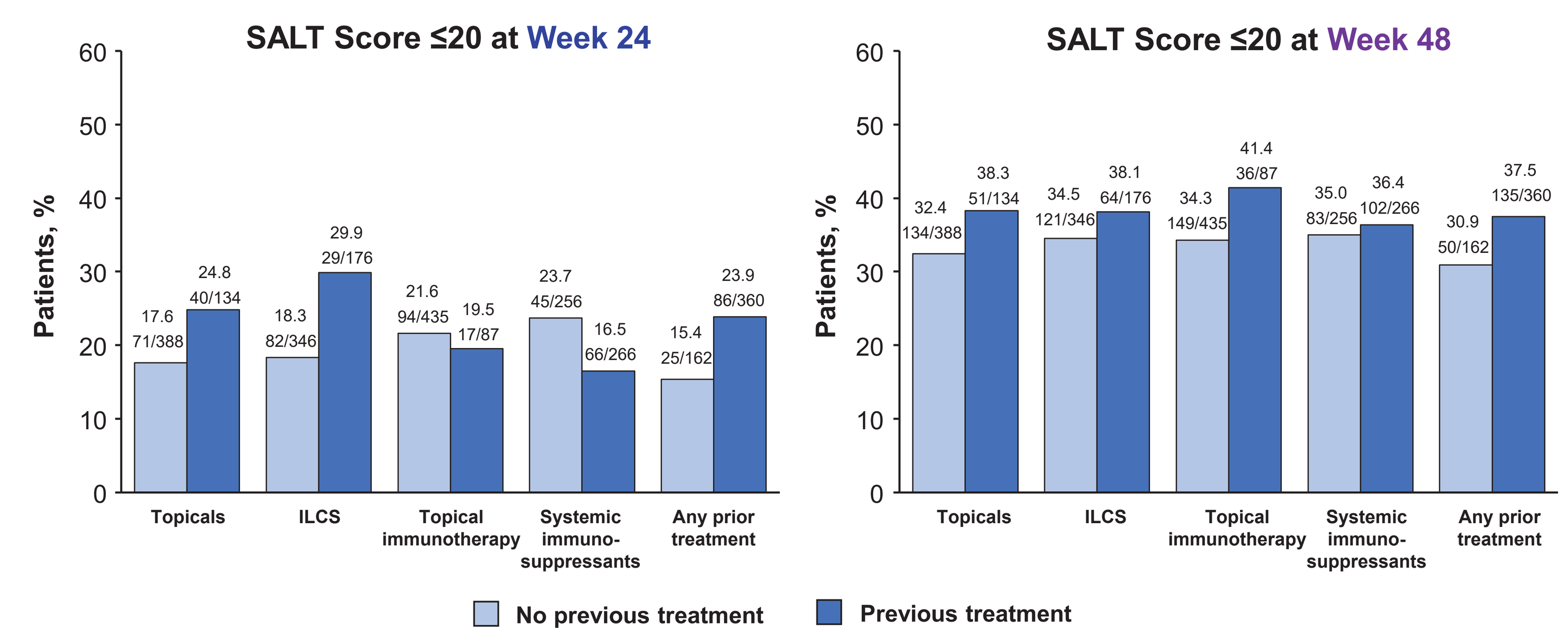
- Of 522 the patients included, 360 (69%) had previous exposure to any AA treatment (**Table 1**)

Table 1. Previous exposure to AA treatments

n (%)	Ritlecitinib (N=522)
Any prior AA treatment	360 (69.0)
Topicals	266 (51.0)
ILCS	134 (25.7)
Topical immunotherapy	87 (16.7)
Systemic immunosuppressants	176 (33.7)

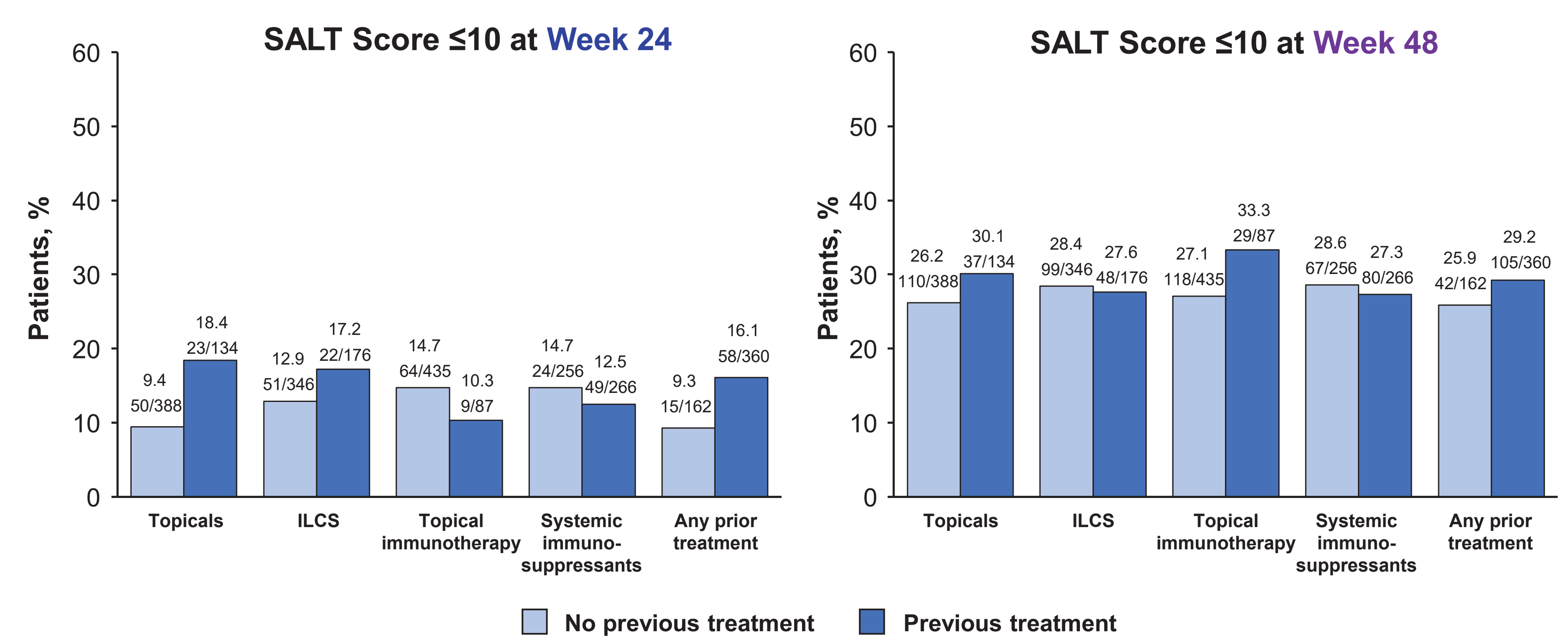
AA, alopecia areata; ILCS, intralesional corticosteroids.
Patients may have used >1 AA treatment.

Figure 2. SALT ≤20 response at Weeks 24 and 48 by prior exposure to AA therapies among patients receiving ritlecitinib ≥30 mg



AA, alopecia areata; ILCS, intralesional corticosteroids; SALT, Severity of Alopecia Tool.

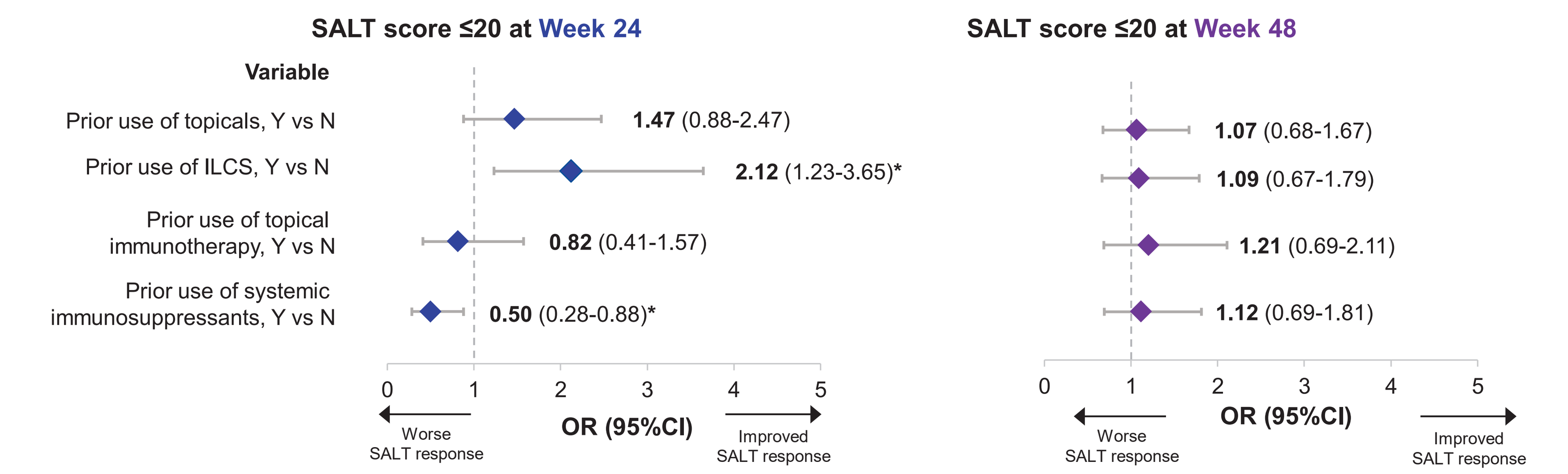
Figure 3. SALT ≤10 response at Weeks 24 and 48 by prior exposure to AA therapies among patients receiving ritlecitinib ≥30 mg



AA, alopecia areata; ILCS, intralesional corticosteroids; SALT, Severity of Alopecia Tool.

- At Week 24, prior use of ILCS and associated with higher likelihood of SALT ≤20 response and prior use of systemic immunosuppressants was associated with a lower likelihood of SALT ≤20 response. By Week 48, no association was identified between SALT ≤20 response and prior use of topicals, ILCS, topical immunosuppressants, or systemic immunosuppressants (**Figure 4**)

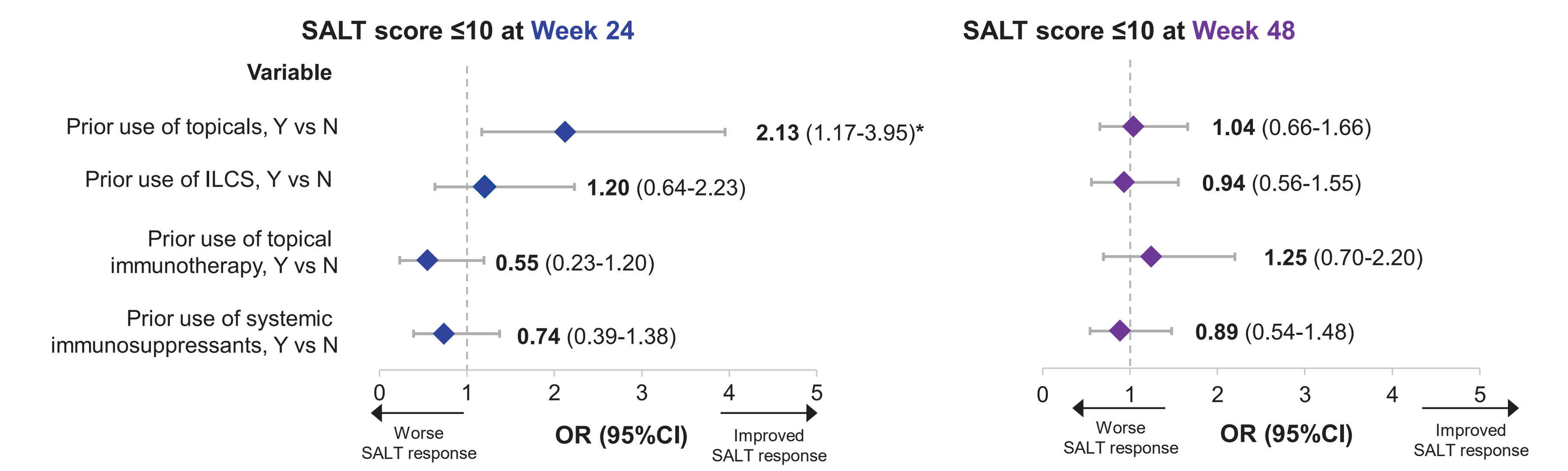
Figure 4. Associations between prior use of AA therapies with SALT ≤20 response at Week 24 and Week 48



OR, odds ratio; ILCS, intralesional corticosteroids; SALT, Severity of Alopecia Tool.
Covariates included age, sex, race, BMI (continuous), episode duration (continuous), disease duration (continuous), extent of AA (AT/AU vs non-AT/AU), prior use of ILCS, prior use of systemic immunosuppressants, prior use of topical immunotherapy, prior use of topicals, Eyelash Assessment at baseline, Eyebrow Assessment at baseline, active shedding, and treatment arm. *$P<0.05$.

- At Week 24, prior use of topical therapy was associated with a higher likelihood of SALT ≤10 response. By Week 48, no association was identified between SALT ≤10 response and prior use of topicals, ILCS, topical immunosuppressants, or systemic immunosuppressants (**Figure 5**)

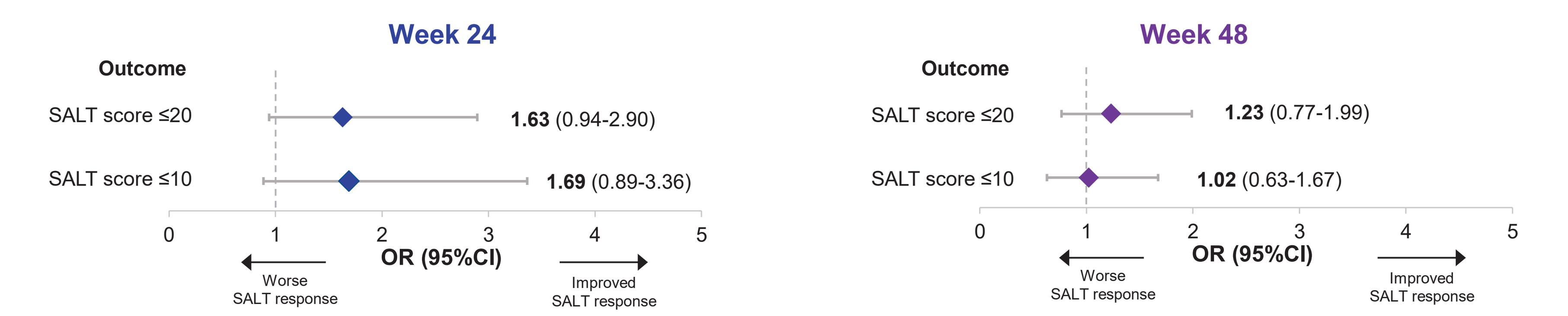
Figure 5. Associations between prior use of AA therapies with SALT ≤10 response at Week 24 and Week 48



OR, odds ratio; ILCS, intralesional corticosteroids; SALT, Severity of Alopecia Tool.
Covariates included age, sex, race, BMI (continuous), episode duration (continuous), disease duration (continuous), extent of AA (AT/AU vs non-AT/AU), prior use of ILCS, prior use of systemic immunosuppressants, prior use of topical immunotherapy, prior use of topicals, Eyelash Assessment at baseline, Eyebrow Assessment at baseline, active shedding, and treatment arm. *$P<0.05$.

- Prior use of any AA therapy was not associated with SALT ≤10 or SALT ≤20 response at Week 24 or Week 48 (**Figure 6**)

Figure 6. Associations between prior use of any AA therapy with SALT ≤20 and SALT ≤10 response at Week 24 and Week 48



OR, odds ratio; SALT, Severity of Alopecia Tool.
Logistic regression model using a single binary variable indicating prior use of any treatment among ILCS, systemic immunosuppressants, topical immunotherapy, and topicals. Covariates included age, sex, race, BMI (continuous), episode duration (continuous), disease duration (continuous), extent of AA (AT/AU vs non-AT/AU), prior use of ILCS, prior use of systemic immunosuppressants, prior use of topical immunotherapy, prior use of topicals, Eyelash Assessment at baseline, Eyebrow Assessment at baseline, active shedding, and treatment arm. *$P<0.05$.

CONCLUSIONS

- Prior exposure to ILCS or systemic immunotherapy was associated with differences in the likelihood of SALT response at Week 24
- However, by Week 48, there was no association between prior use of any AA therapies and clinically meaningful scalp hair regrowth (as determined by SALT ≤10 or SALT ≤20 responses) among patients receiving ritlecitinib doses of ≥30 mg
- These results suggest that there is no effect on longer-term treatment response to ritlecitinib based on prior treatment history, highlighting the importance of maintaining ritlecitinib therapy to evaluate the full therapeutic response

REFERENCES

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2. Anderson P, et al. EADV 2022. Abstract 1695.
3. King B, et al. *Lancet*. 2023;401:1518-1529.

ABBREVIATIONS

AA, alopecia areata, AT, alopecia totalis; AU, alopecia universalis; BMI, body mass index; DNCB, dinitrochlorobenzene; DPCP, diphenylcyclopropenone; ILCS, intralesional corticosteroids; IM, intramuscular; IV, intravenous; JAK3, Janus kinase 3; MTX, methotrexate; SALT, Severity of Alopecia Tool; TCI, topical calcineurin inhibitors; TEC, tyrosine kinase expressed in hepatocellular carcinoma.

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DISCLOSURES

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