Effect of Secukinumab on Draining Tunnels in Patients with Moderate to Severe Hidradenitis Suppurativa: Post Hoc Analysis of the SUNSHINE and SUNRISE Phase 3 Randomised Trials

P144

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INTRODUCTION

- Hidradenitis suppurativa (HS) is a chronic, recurrent follicular skin disease characterised by deep and painful dermal inflammatory nodules, abscesses and tunnels, typically located in the apocrine gland-bearing skin of the axillary, inguinal and anogenital regions[1]
- Draining tunnels (also called draining fistulae or sinus tracts) in HS are associated with a more severe disease, cause significant pain, have a detrimental impact on quality of life and are considered predictors of poor response to medical therapy[2-6]
- Secukinumab, an anti–interleukin-17A therapy, was evaluated for the treatment of moderate to severe HS in the SUNSHINE (NCT03713619) and SUNRISE (NCT03713632) pivotal phase 3 trials[7]
- A post hoc analysis of pooled data from the SUNSHINE and SUNRISE trials was conducted to assess the effect of secukinumab on draining tunnels up to 52 weeks of treatment, both in the overall population and in the population of patients who presented with ≥1 draining tunnel at baseline

METHODS

Study Design and Patients

- SUNSHINE and SUNRISE were identical, phase 3, randomised, placebo-controlled, multicentre clinical trials evaluating the short-term (up to week 16) and long-term (up to week 52) efficacy and safety of two secukinumab dosing regimens (secukinumab 300 mg every 2 weeks [SECQ2W] or 4 weeks [SECQ4W]) in adults with moderate to severe HS
- Patients aged ≥18 years with ≥1 year since HS diagnosis and with moderate to severe HS (defined as a total of ≥5 inflammatory lesions affecting ≥2 distinct anatomical areas) were included
- Eligible patients were randomised in a 1:1:1 ratio to SECQ2W, SECQ4W or placebo at baseline
- Patients received subcutaneous (s.c.) injections (secukinumab 300 mg or placebo) once a week for four weeks (induction) at baseline, weeks 1, 2, 3 and 4. Thereafter, patients received SECQ2W, SECQ4W or placebo, based on the treatment group they were assigned to up to week 16
- At week 16, patients previously randomised to either SECQ2W or SECQ4W continued with the same dose regimen, whereas patients randomised to placebo were switched to receive SECQ2W or SECQ4W up to week 52

Endpoints and Analyses

- The primary and key secondary endpoints are reported elsewhere[7]. Exploratory endpoints assessed in this post hoc analysis were:
  - The mean change from baseline up to week 52 in the number of draining tunnels in patients with ≥1 draining tunnels at baseline
  - The proportion of patients reporting no increase in draining tunnels from baseline, up to week 52 in all patients and in those with ≥1 draining tunnels at baseline
- All analyses were performed on pooled data from both trials and are reported as observed

RESULTS

- In total, 1084 patients from SUNSHINE and SUNRISE were included in this analysis (SECQ2W, N=361; SECQ4W, N=360; placebo, N=363)
- Overall, 66.2%, 60.6% and 62.5% of patients in the SECQ2W, SECQ4W and placebo treatment arms, respectively, presented with at least one draining tunnel at baseline (**Table 1**)

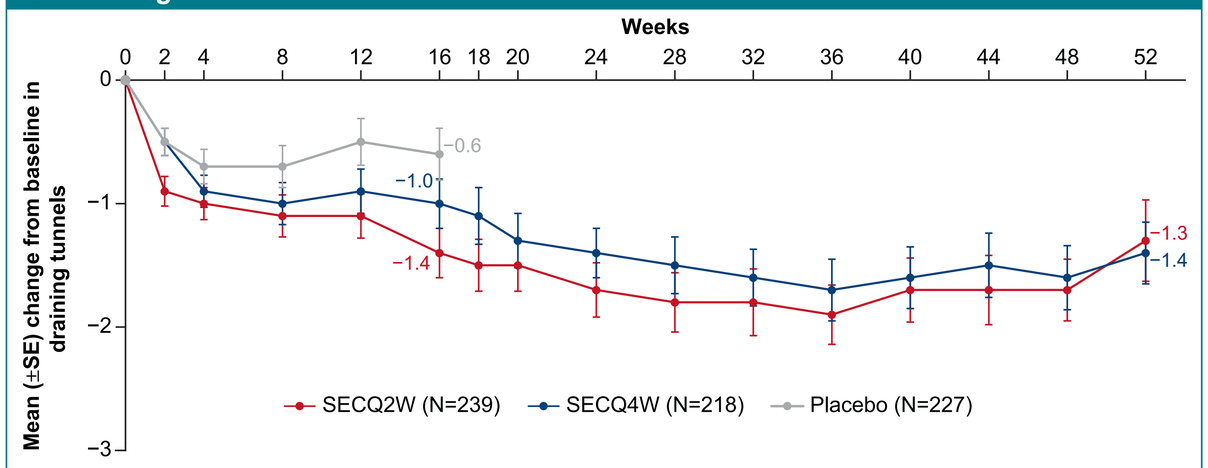
Table 1. Draining tunnels at baseline

	SECQ2W (N=361)	SECQ4W (N=360)	Placebo (N=363)
Patients by the presence of draining tunnels at baseline, n (%)			
Patients with no draining tunnels	122 (33.8)	142 (39.4)	136 (37.5)
Patients with ≥1 draining tunnel	239 (66.2)	218 (60.6)	227 (62.5)
Patients by draining tunnels categories at baseline, n (%)			
1–2	86 (23.8)	106 (29.4)	91 (25.1)
3–5	89 (24.7)	57 (15.8)	81 (22.3)
6–9	41 (11.4)	31 (8.6)	40 (11.0)
≥10	23 (6.4)	24 (6.7)	15 (4.1)
Number of draining tunnels at baseline in the overall population, mean±SD	2.9±3.51	2.5±3.51	2.5±3.19
Number of draining tunnels at baseline in patients with ≥1 draining tunnel, mean±SD	4.4±3.47	4.1±3.71	4.0±3.19

N, number of patients in group; n, number of patients with outcome; Q2W, every 2 weeks; Q4W, every 4 weeks; SEC, secukinumab 300 mg

- In patients who presented with ≥1 draining tunnel at baseline, the mean decrease from baseline in the number of draining tunnels was numerically greater in both secukinumab dosing regimens versus placebo at week 16 (−1.4±2.95, −1.0±2.79 and −0.6±2.94 in the SECQ2W, SECQ4W and placebo arms, respectively), with this decrease being sustained through week 52 (**Figure 1**)
- Overall, at week 16, a numerically greater proportion of patients treated with secukinumab did not experience an increase in the number of draining tunnels from baseline compared to placebo (84.8%, 80.9% and 75.8% of patients in the SECQ2W, SECQ4W and placebo arms, respectively); this effect was sustained through week 52 in both secukinumab dose groups (**Figure 2A**)
- At week 16, among patients with at least one draining tunnel at baseline (N=684), a numerically greater proportion of patients treated with either secukinumab dosing regimen had no increase in draining tunnels from baseline compared to placebo (82.9%, 78.2% and 71.2% of patients in the SECQ2W, SECQ4W and placebo arms, respectively). In addition, the benefit observed at week 16 in both secukinumab dosing regimens was sustained through week 52 (**Figure 2B**)

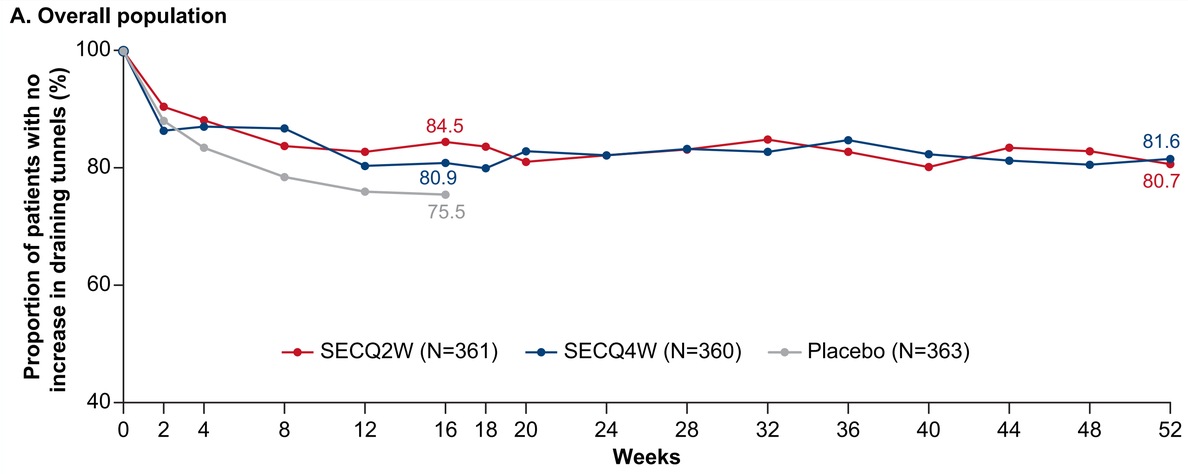
Figure 1. Mean change in draining tunnels over time up to week 52 in patients with ≥1 draining tunnel at baseline



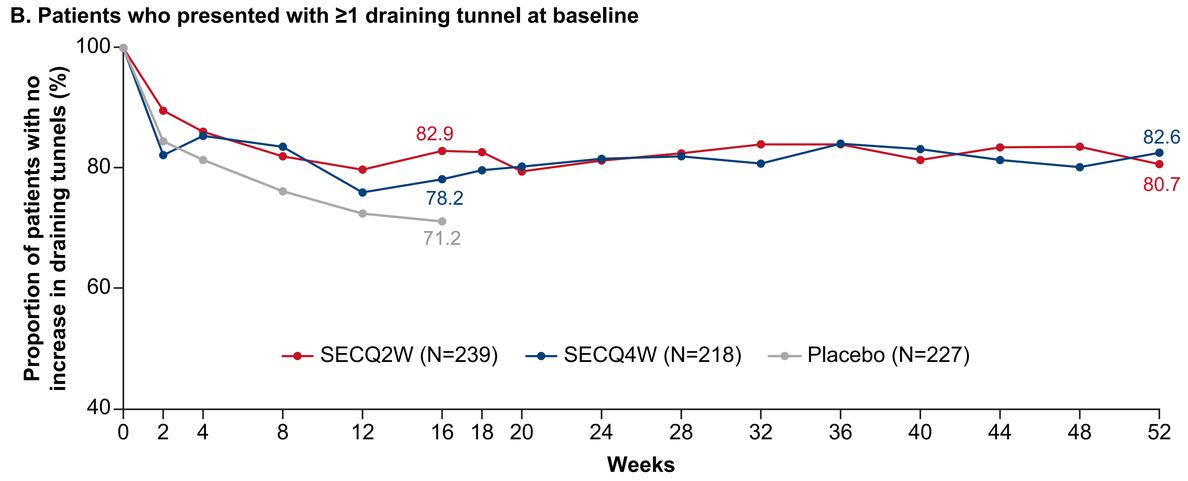
Data are presented as observed. At week 16, patients randomised to placebo were switched to receive SECQ2W or SECQ4W up to week 52. Only patients on continuous secukinumab treatment for 52 weeks are represented in the graph beyond week 16
Q2W, every 2 weeks; Q4W, every 4 weeks; SEC, secukinumab 300 mg

Figure 2. Proportion of patients reporting no increase in draining tunnels from baseline over time to week 52

A. Overall population



B. Patients who presented with ≥1 draining tunnel at baseline



Data are presented as observed. At week 16, patients randomised to placebo were switched to receive SECQ2W or SECQ4W up to week 52. Only patients on continuous secukinumab treatment for 52 weeks are represented in the graph beyond week 16
Q2W, every 2 weeks; Q4W, every 4 weeks; SEC, secukinumab 300 mg

CONCLUSIONS

- These findings suggest that in patients with moderate to severe HS, secukinumab was effective in reducing the number of draining tunnels at week 16, with the effects being sustained through week 52
- In addition, at week 52, more than 80% of patients treated with secukinumab did not experience an increase in the number of draining tunnels from baseline, which is relevant because skin tunnel formation is associated with progression of disease in HS and indicates irreversible tissue damage[5,6]

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Disclosures

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