

Flexible dosing of secukinumab in patients with moderate to severe hidradenitis suppurativa: Interim real-world patterns from the *ANIMA* study in Germany

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KEY FINDINGS & CONCLUSIONS

- Dosing patterns observed in this analysis provide initial insights into the flexible use of secukinumab in a real-world setting, reflecting individualized treatment strategies in HS management.
- Secukinumab dose optimization through up- and down-titration is mainly driven by clinical response and may support long-term disease control.
- This interim analysis demonstrates a need for flexible dosing of secukinumab in moderate to severe HS to enable individualized treatment according to clinical response and patient needs.

This study is sponsored by Novartis Pharma GmbH, Nuremberg, Germany. Poster presented at EADV Congress 2026 (30-Sep – 3-Oct-2026), Vienna, Austria

INTRODUCTION

- Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease associated with substantial disease burden and severely impaired quality of life.
- Secukinumab demonstrated efficacy in patients with moderate to severe HS in randomized, placebo-controlled, double-blind phase 3 clinical trials evaluating two dosing regimens.¹
- Real-world evidence is needed to assess how secukinumab is being used in routine clinical practice.
- The main objective of the non-interventional *ANIMA* study is **to evaluate the treatment pattern of a flexible dosing regimen of secukinumab in a German real-world setting**.

RESULTS

- Overall, 437 patients across 81 study sites in Germany were enrolled into the *ANIMA* study between 10-Aug-2023 and 31-Mar-2025; of those, 86 (19.7%) completed the study and 148 (33.9%) were still ongoing on 27-May-2026.
- 267 patients with available Month 12 visit on or before 31-Mar-2026 were included in this interim analysis (data cut-off 27-May-2026).

Demographics and baseline characteristics

- Hurley stage distribution:** Stage I, 4.5 %; Stage II, 52.1%; Stage III, 42.3%; missing 1.1% (**Figure 2A**).
- Disease severity by IHS4:** Mild, 3.0%; Moderate, 27.7%; Severe, 68.2%; missing 1.1% (**Figure 2B**).
- 20.6% of patients had previously been exposed to biologics.
- 63.7% of patients had undergone at least one HS-related surgical intervention in the past.

Table 1. Demographics and Baseline Characteristics

Characteristics	N=267*
Age (years), mean ± SD	41.3 ± 12.2
Sex: female, n (%)	145 (54.3)
Weight (kg), mean ± SD	97.2 ± 22.9
BMI, mean ± SD	32.4 ± 6.9
Smoking status, n (%)	
Current	160 (59.9)
Former	44 (16.5)
Never	62 (23.2)
Unknown	1 (0.4)
Age at onset of symptoms (years), mean ± SD	25.3 ± 11.6
Age at first diagnosis (years), mean ± SD	33.1 ± 12.5
Disease duration** (years), mean ± SD	16.0 ± 11.5
Biologic pre-treatment status***: pre-treated, n (%)	55 (20.6)
≥1 prior HS-related surgical intervention, n (%)	170 (63.7)

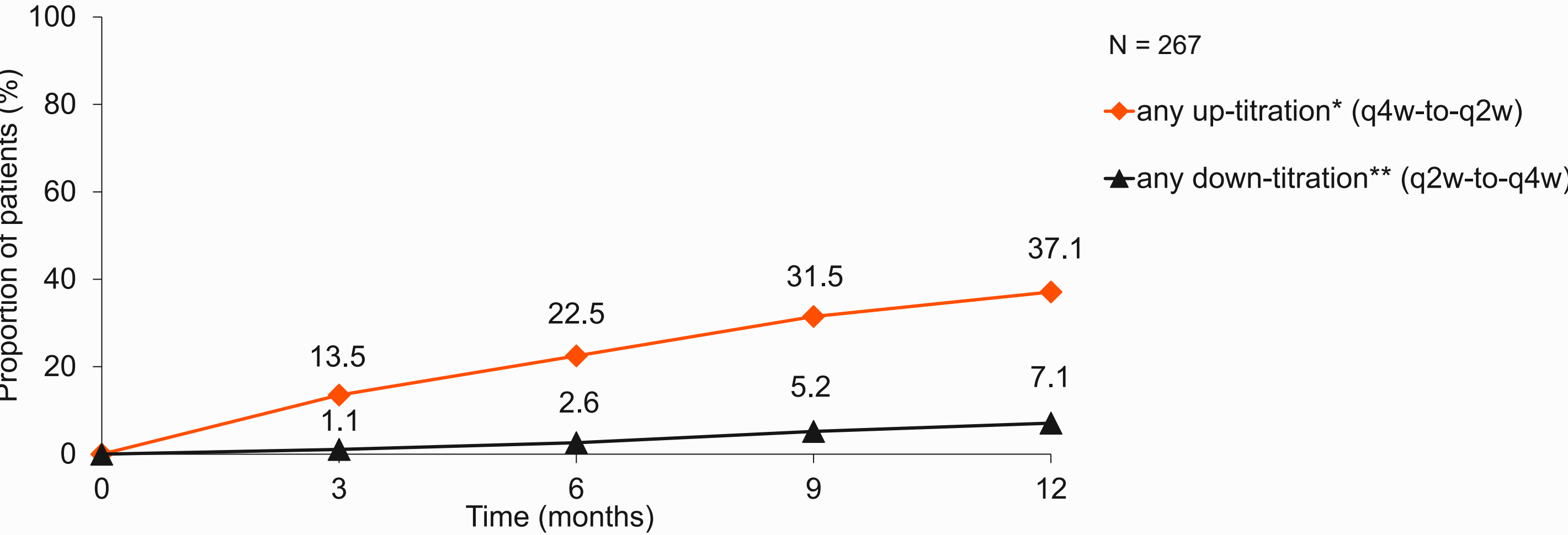
* Interim analysis Full Analysis Set. **Disease duration is defined as age at onset of HS symptoms up to age at inclusion. ***Biologic pre-treatment status as assessed by the treating physician at baseline.

BMI Body Mass Index. HS Hidradenitis suppurativa. IHS4 International Hidradenitis Suppurativa Severity Scoring System. SD Standard deviation.

Flexible dosing of secukinumab

- Within the first treatment year, 37.1% of patients received ≥1 dose up-titration to secukinumab every two weeks (q2w), 7.1% received ≥1 dose down-titration (q2w to q4w), while 62.9% remained on stable q4w without dose modifications (**Figure 3**).
- 30.0% of patients had only one dose change, whereas 4.5%, 2.2%, and 0.4% experienced two, three, or ≥4 dose changes within the first treatment year, respectively.
- The most frequently documented reason for dose modification was clinical response (based on IHS4 or HS-PGA), reported in 57.6% of dose changes.
- The observed safety profile was consistent with the known safety profile of secukinumab.

Figure 3. Patients receiving up-titration / down-titration of secukinumab over 1 year¹



N Total number of patients in interim analysis Full Analysis Set. 1 Only dose changes that occurred between treatment initiation and the respective time point (3 months, 6 months etc.) are included. *Up-titration includes escalation from q4w to q2w. Additionally, switching directly from a loading dose (q1w) to q2w without a prior change to q4w is also considered up-titration. **Down-titration includes de-escalation from q2w to q4w following any prior up-titration. Switching from loading dose (q1w) to q4w and from loading dose (q1w) directly to q2w are not defined as down-titration.

q2w every 2 weeks. q4w every 4 weeks.

References

- Kimball AB, et al. Secukinumab in moderate-to-severe hidradenitis suppurativa (SUNSHINE and SUNRISE): week 16 and week 52 results of two identical, multicentre, randomised, placebo-controlled, double-blind phase 3 trials. *Lancet*. 2023 Mar 4;401(10378):747-761. Erratum in: *Lancet*. 2024 Feb 17;403(10427):618
- <https://clinicaltrials.gov/study/NCT05921994>

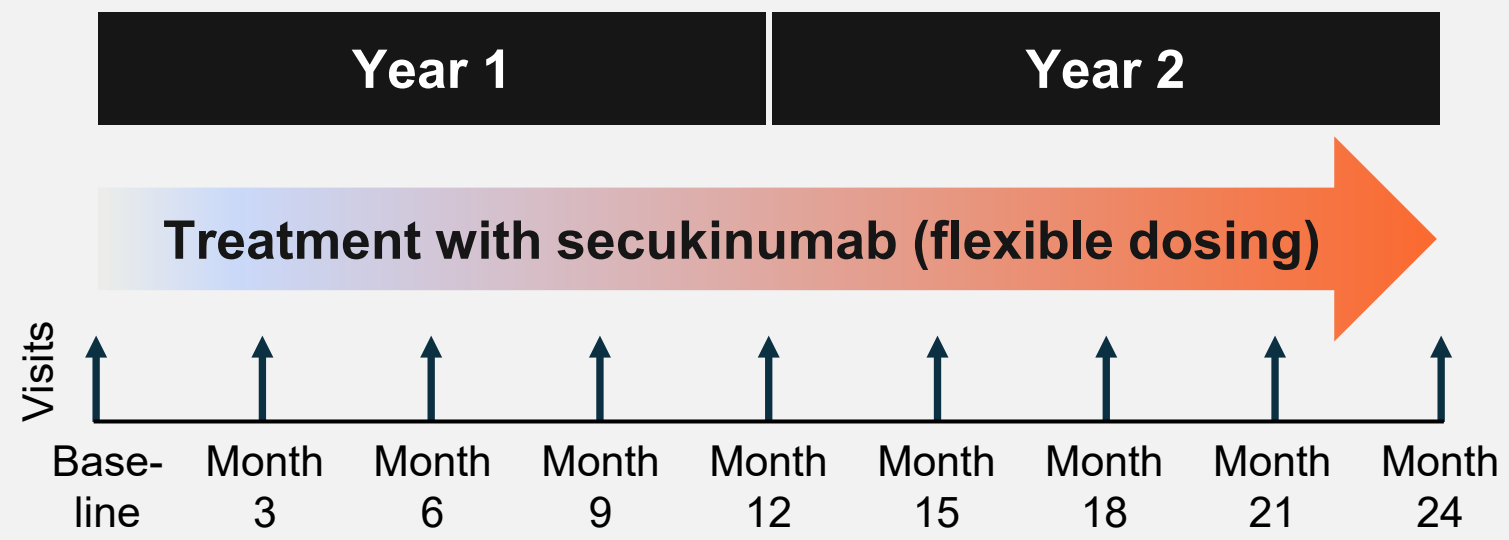
Disclosures

The ANIMA study is funded and sponsored by Novartis Pharma GmbH, Nuremberg, Germany. T. Volz received grants from Abbvie and Novartis and received consulting fees and honoraria from Novartis and UCB Pharma. M. Alter has received honoraria for lectures and advisory board participation from Roche, BMS, MSD, Novartis, Amgen, Merck Serono, Almirall Hermal, SUN, Sanofi, Pierre-Fabre, Abbvie, Janssen, Pfizer, Takeda, Incyte and Falk and has received travel and congress participation support from Roche, Novartis, BMS, SUN, Merck-Serono, Pierre-Fabre, AbbVie, and UCB. M. Augustin has served as a consultant, lecturer or researcher, and/or has received research grants from companies manufacturing drugs for hidradenitis suppurativa, including AbbVie, Celltrion, Hexal, Mylan B.V., Novartis, UCB and Viatrix. D. Thaçi has been an adviser, speaker, and/or consultant for AbbVie, Almirall, Amgen, Boehringer Ingelheim, Bristol Myers Squibb, Celltrion, Galderma, Janssen, Kyowa Kirin, LEO Pharma, Lilly, New Bridge, Novartis, Pfizer, Regeneron, Sanofi/ Genzyme, Tamro, Target RWE, UCB and Zuellig Pharma. F.G. Bechara has received honoraria for participation in advisory boards, in clinical trials, and/or as a speaker from AbbVie Inc., AbbVie Deutschland GmbH & Co. KG, Acelyrin, Almirall, Avalo, Beiersdorf, Boehringer Ingelheim Pharma GmbH & Co. KG, Celltrion, Citryll, Incyte Corporation, Influx, Janssen-Cilag GmbH, Johnson & Johnson, Lilly, Merck, Mölnlycke, MoonLake, Navigator Medicines, Novartis Pharma GmbH, Sanofi, Sitala, Takeda and UCB Pharma. M. Biermann, J. Gericke, M.C. Schielein and E. Schruf are employees of Novartis Pharma GmbH, Nuremberg, Germany. Y. Geissbühler is a stakeholder and employee of Novartis Pharma AG, Basel, Switzerland. M. Sticherling: Scientific support, Speakers and Advisory Boards, clinical studies: Abbvie, Almirall, Amgen, Astra Zeneca, BMS, Boehringer Ingelheim, Celgene, Galderma, Gedeon Richter, Incyte, Johnson & Johnson, Leo, Lilly, MSD, Novartis, Pfizer, Regeneron, Sandoz, Sanofi, UCB.

METHODS

- The ongoing *ANIMA* study is a long-term, prospective, multicenter, observational, open-label, single cohort study evaluating the real-world use of secukinumab in adult patients with moderate to severe HS in Germany (**Figure 1**).²
- This interim analysis only includes patients who completed the 12-month visit on or before 31-March-2026.
- Descriptive analyses were based on data available at the data cut-off on 27-May-2026.

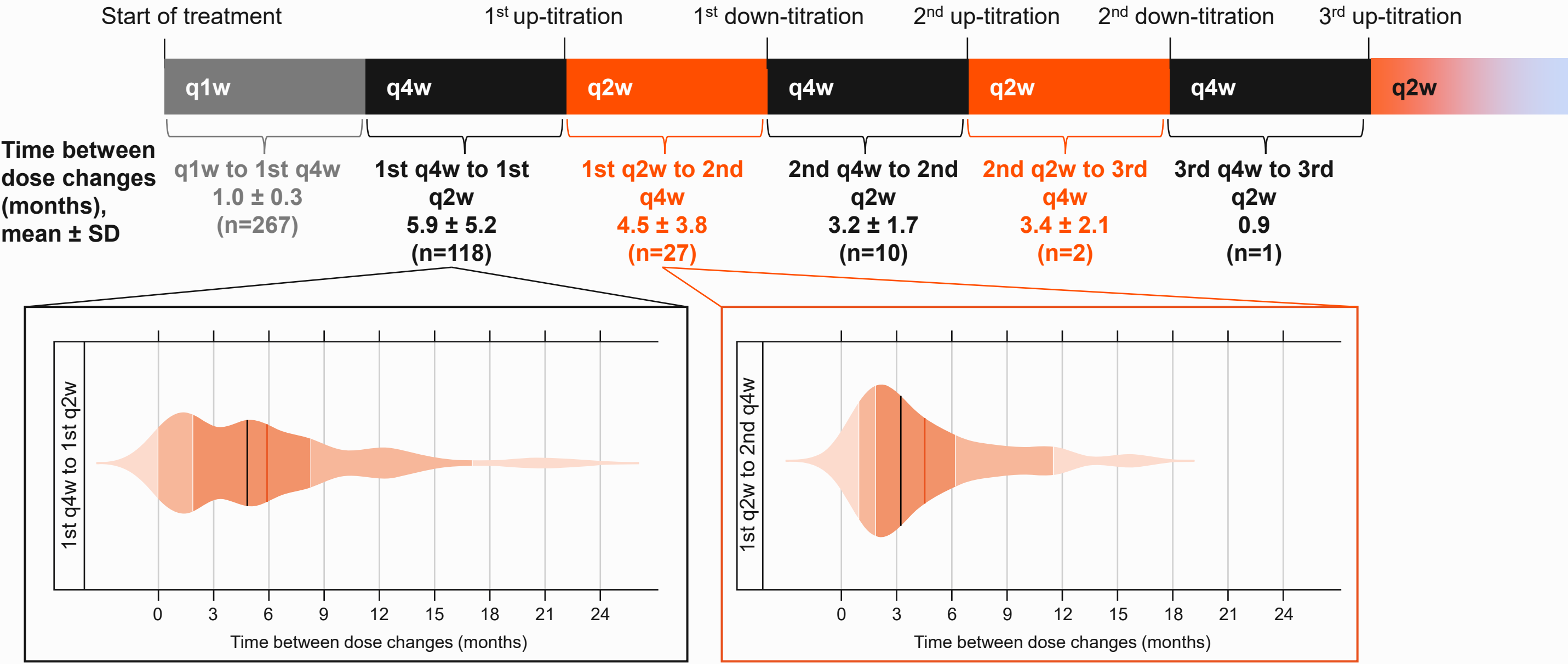
Figure 1. *ANIMA* study design



Time between dose changes

- Among patients with the respective dose modifications, the mean time from q1w to first q4w was 1 month (n=267), from first q4w to first q2w was 5.9 months (n=118), and from first q2w to second q4w was 4.5 months (n=27) (**Figure 4**).

Figure 4. Time between dose changes

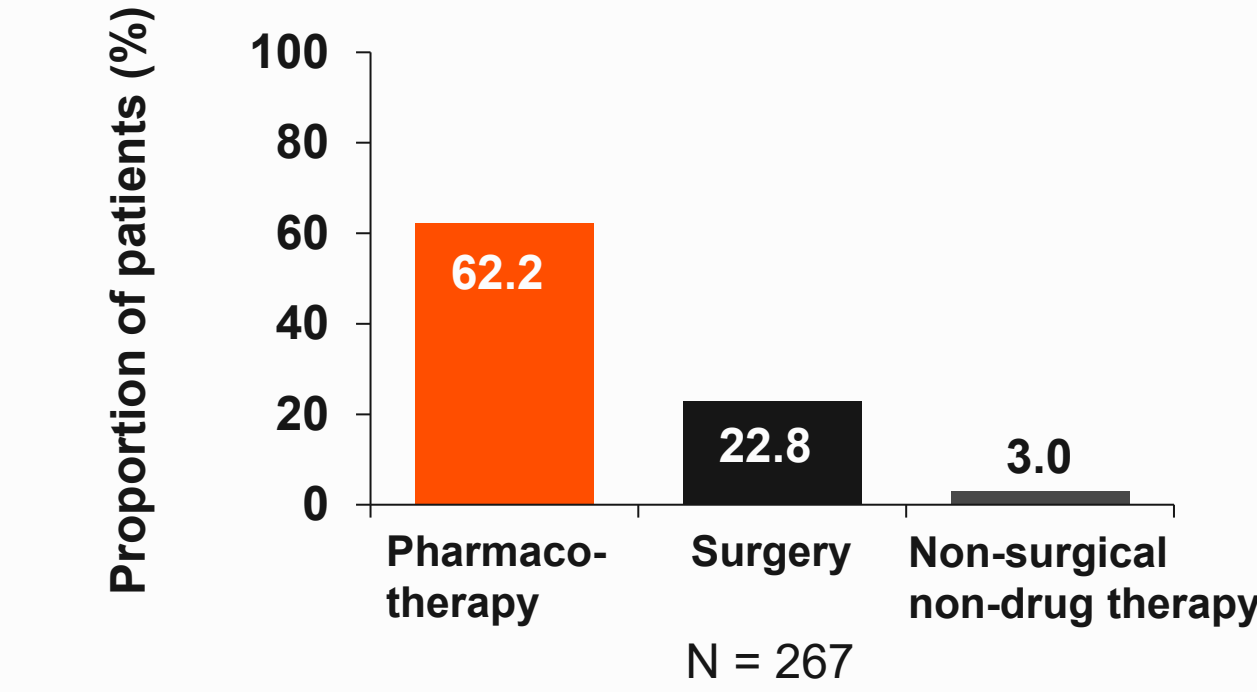


Each interval comprises only patients who have the corresponding subsequent dose change documented. Time between dose changes is defined as the number of days between the start date of one dosing regimen and the start date of the subsequent dosing scheme of interest. If the dosing regimen is changed directly from q1w to q2w, without a prior change to q4w, the time between the dose change from first q4w to first q2w is counted as 0 days. Violin plot: Displays the data distribution; wider areas represent greater observation density. The orange line indicates the mean, the black line indicates the median, the dark orange shaded area represents the interquartile range (25th to 75th percentile), and the light orange shaded area represents the 5th to 95th percentile range. All dose changes that occurred between treatment initiation and the interim analysis data cut date 27 May 2026 are included.

n Number of patients in interim analysis Full Analysis Set who have the corresponding subsequent dose change documented. q1w loading dose, once weekly. q2w every 2 weeks. q4w every 4 weeks. SD standard deviation.

Concomitant HS-related treatment & surgical intervention

Figure 5. Concomitant HS-related treatment



N Total number of patients in interim analysis Full Analysis Set.

HS-related surgical interventions since start of treatment

- 61/267 patients (22.8%) underwent HS-related surgical interventions after secukinumab treatment initiation and 86 individual surgical interventions were documented in these patients; 42/267 patients (15.7%) underwent exactly one surgical intervention, and 19/267 patients (7.1%) underwent ≥2 surgeries.
- HS-related surgeries were predominantly performed in typical HS-affected anatomical regions, including the axillary, inguinal, genital, and gluteal areas.
- HS-related surgical interventions had a limited impact on secukinumab treatment, with only one documented discontinuation due to HS-related surgery within the interim analysis population.

Table 2. HS-related surgical interventions since start of treatment

	n (%)
Total number of surgical interventions**	86 (100.0)
Type of surgical intervention**	
Incision and drainage	31 (36.0)
De-roofing	9 (10.5)
STEEP	0 (0.0)
Wide surgical excision	45 (52.3)
Missing Values	1 (1.2)
Location of surgical intervention**	
Inpatient	36 (41.9)
Outpatient	50 (58.1)
Self-treatment at home	0 (0.0)

**Percentages are based on the total number of surgical interventions since start of treatment within the interim analysis Full Analysis Set.

STEEP Skin-Tissue-sparing Excision with Electrosurgical Peeling.

	n (%)
Surgical intervention planning status**	
Planned before the start of secukinumab	16 (18.6)
Planned after the start of secukinumab	36 (41.9)
Spontaneous intervention	31 (36.0)
Unknown	3 (3.5)
Wound healing**	
Secondary wound healing	78 (90.7)
Split-skin grafts	0 (0.0)
Large flaps	3 (3.5)
Unknown	5 (5.8)
Surgery-induced pain relief**	
Minor	20 (23.3)
Moderate	37 (43.0)
Major	4 (4.7)
Unknown	24 (27.9)
Missing Values	1 (1.2)



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Effectiveness of secukinumab in patients with moderate to severe hidradenitis suppurativa in a real-world setting: Interim results from the ANIMA study in Germany

Michael Sticherling ¹, Mareike Alter ², Matthias Augustin ³, Diamant Thaçi ⁴, Falk Bechara ⁵, Mona Biermann ⁶, Janine Gericke ⁶, Yvonne Geissbühler ⁷, Maximilian Schielein ⁶, Eva Schruf ⁶, Thomas Volz ⁸

¹ Department of Dermatology, Universitätsklinikum Erlangen, Deutsches Zentrum Immuntherapie, Erlangen, Germany; ² Department of Dermatology, Johannes Wesling University Hospital Minden, Ruhr-University-Bochum, Minden, Germany; ³ Institute for Health Services Research in Dermatology and Nursing, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ⁴ Institute and Centre for Inflammation Medicine, University of Lübeck, Lübeck, Germany; ⁵ Department of Dermatology, Venereology and Allergology, International Centre for Hidradenitis Suppurativa/Acne Inversa, Ruhr-University Bochum, Bochum, Germany; ⁶ Novartis Pharma GmbH, Nuremberg, Germany; ⁷ Novartis Pharma AG, Basel, Switzerland; ⁸ Department of Dermatology and Allergology, Technical University of Munich, Munich, Germany

KEY FINDINGS & CONCLUSIONS

- Secukinumab demonstrated sustained effectiveness in a real-world cohort of patients with moderate to severe HS within the first treatment year.
- Improvements were observed across clinician-assessed disease activity measures AN count, HS-PGA, and IHS4 response.
- Patient-reported outcomes regarding skin pain and quality of life improved over 12 months.
- These findings complement evidence from the phase 3 *SUNSHINE* and *SUNRISE* studies and support the use of secukinumab as an effective long-term treatment option for moderate to severe HS in a real-world setting.

This study is sponsored by Novartis Pharma GmbH, Nuremberg, Germany. Poster presented at EADV Congress 2026 (30-Sep – 3-Oct-2026), Vienna, Austria

INTRODUCTION

- Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease associated with substantial disease burden and severely impaired quality of life.
- Secukinumab demonstrated efficacy in patients with moderate to severe HS in randomized, placebo-controlled, double-blind phase 3 clinical trials, *SUNSHINE* and *SUNRISE*, evaluating two dosing regimens. ^{1, 2}
- Real-world evidence is needed to evaluate treatment effectiveness in routine clinical practice.
- In addition to evaluating flexible secukinumab dosing patterns, the objective of the non-interventional *ANIMA* study is to **assess the real-world effectiveness of secukinumab in adult patients with moderate to severe HS, including clinical outcomes and quality of life.**

RESULTS

- Overall, 437 patients across 81 study sites in Germany were enrolled into the *ANIMA* study between 10-Aug-2023 and 31-Mar-2025; of those, 86 (19.7%) completed the study and 148 (33.9%) were still ongoing on 27-May-2026.
- 267 patients with available Month 12 visit on or before 31-Mar-2026 were included in this interim analysis (data cut-off 27-May-2026).

Demographics and baseline characteristics

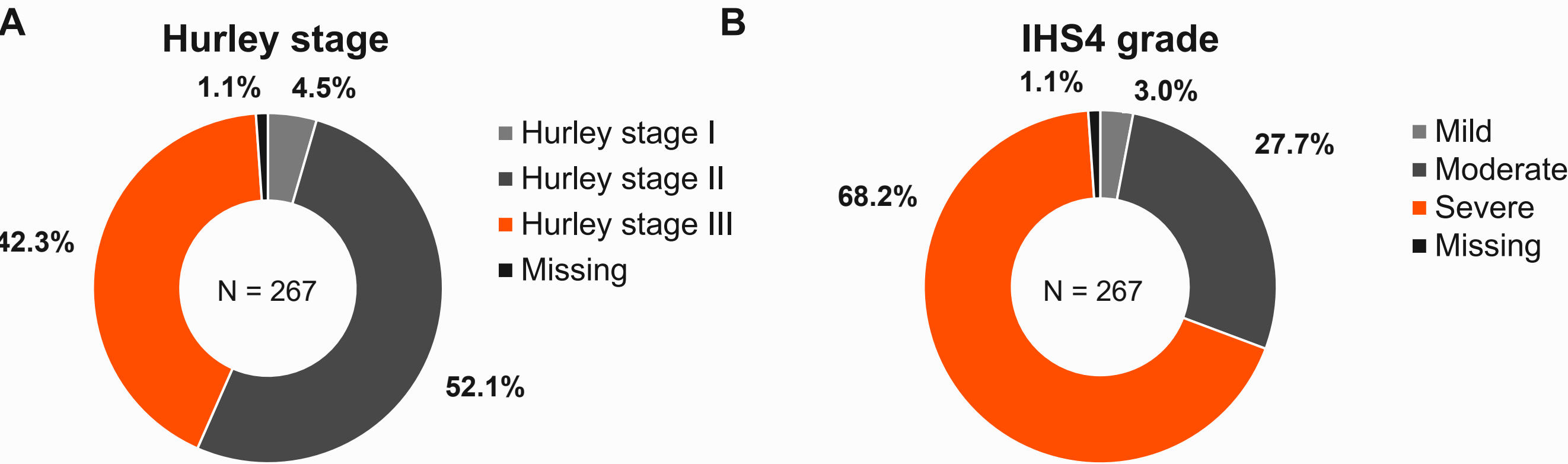
- Mean age was 41.3 ± 12.2 years; 54.3% of patients were female and 45.7% were male.
- **Hurley stage distribution:** Stage I, 4.5 %; Stage II, 52.1%; Stage III, 42.3%; missing, 1.1% (**Figure 2A**).
- **Disease severity by IHS4:** Mild, 3.0%; Moderate, 27.7%; Severe, 68.2%; missing, 1.1% (**Figure 2B**).
- Mean disease duration was 16.0 ± 11.5 years and 25.1% had a known family history of HS.
- Diagnostic delay varied considerably; 36% of patients had a diagnostic delay of ≤1 year, while nearly one third experienced a delay of ≥10 years (**Figure 3A**).
- 20.6% of patients had previously been exposed to biologics and 63.7% had undergone prior HS-related surgery.
- 40.8% of patients had undergone exactly one HS-related surgical intervention in the past, while 17.2% had 2-4 , and 5.6% had undergone >4 prior surgeries (**Figure 3B**).

Table 1. Demographics and baseline characteristics

Characteristics	N=267*	Characteristics	N=267*
Age (years), mean ± SD	41.3 ± 12.2	Age at onset of symptoms (years), mean ± SD	25.3 ± 11.6
Sex: female, n (%)	145 (54.3)	Age at first diagnosis (years), mean ± SD	33.1 ± 12.5
Weight (kg), mean ± SD	97.2 ± 22.9	Disease duration** (years), mean ± SD	16.0 ± 11.5
BMI, mean ± SD	32.4 ± 6.9	Family history of HS, n (%)	
Smoking status, n (%)		Yes	67 (25.1)
Current	160 (59.9)	No	140 (52.4)
Former	44 (16.5)	Unknown	60 (22.5)
Never	62 (23.2)	Biologic pre-treatment status***: pre-treated, n (%)	55 (20.6)
Unknown	1 (0.4)	≥1 prior HS-related surgical intervention, n (%)	170 (63.7)

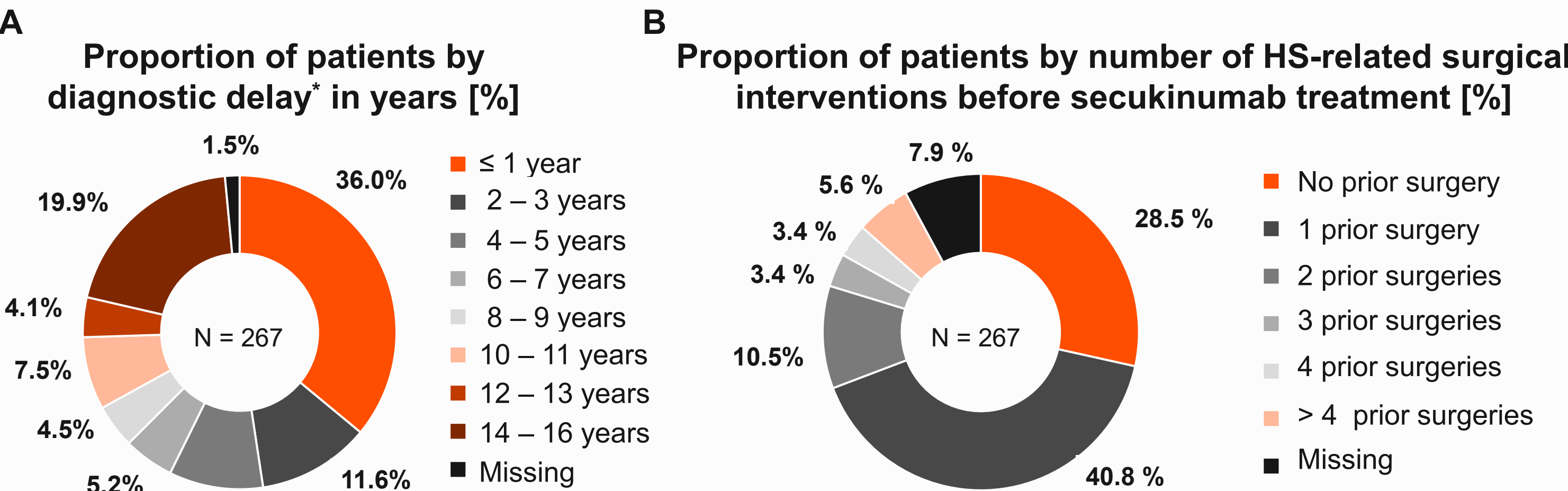
*Interim analysis Full Analysis Set. **Disease duration is defined as age at onset of HS symptoms up to age at inclusion. ***Biologic pre-treatment status as assessed by the treating physician at baseline.
BMI Body Mass Index. HS Hidradenitis suppurativa. IHS4 International Hidradenitis Suppurativa Severity Scoring System. SD Standard deviation.

Figure 2. Disease severity at baseline



IHS4 International Hidradenitis Suppurativa Severity Scoring System. N total number of patients in interim analysis Full Analysis Set.

Figure 3. Diagnostic delay and number of prior HS-related surgical interventions



*Diagnostic delay is defined as age at onset of HS symptoms up to age at first HS diagnosis.
HS Hidradenitis suppurativa. N total number of patients in interim analysis Full Analysis Set.

References

1. Kimball AB, et al. Secukinumab in moderate-to-severe hidradenitis suppurativa (*SUNSHINE* and *SUNRISE*): week 16 and week 52 results of two identical, multicentre, randomised, placebo-controlled, double-blind phase 3 trials. *Lancet*. 2023 Mar 4;401(10378):747-761. Erratum in: *Lancet*. 2024 Feb 17;403(10427):618
2. Zouboulis CC, et al. Secukinumab efficacy in patients with hidradenitis suppurativa assessed by the International Hidradenitis Suppurativa Severity Score System (IHS4): A post hoc analysis of the *SUNSHINE* and *SUNRISE* trials. *J Eur Acad Dermatol Venerol*. 2025 Aug;39(8):1421-1430.
3. <https://clinicaltrials.gov/study/NCT05921994>

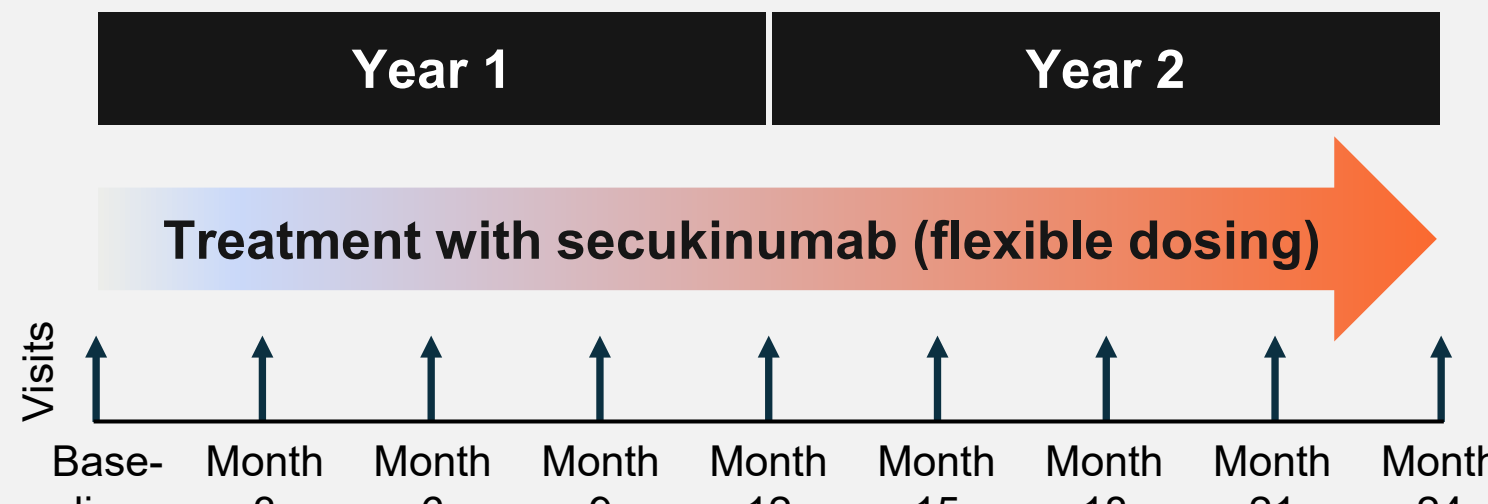
Disclosures

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METHODS

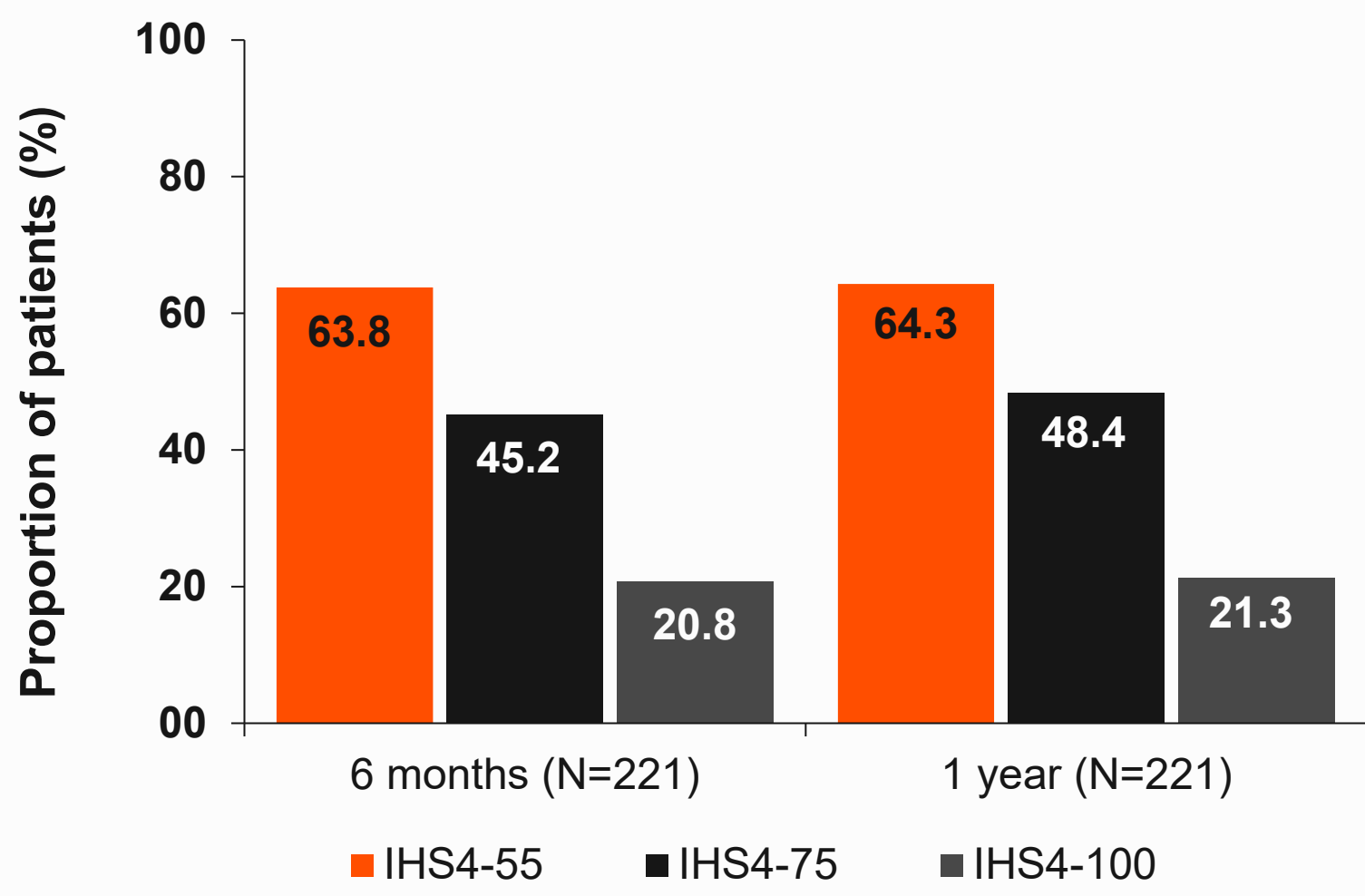
- The ongoing *ANIMA* study is a long-term, prospective, multicenter, observational, open-label, single cohort study evaluating the real-world use of secukinumab in adult patients with moderate to severe HS in Germany (**Figure 1**). ²
- This interim analysis only includes patients who completed the 12-month visit on or before 31-March-2026.
- Descriptive analyses were based on data available at the data cut-off on 27-May-2026.

Figure 1. ANIMA study design



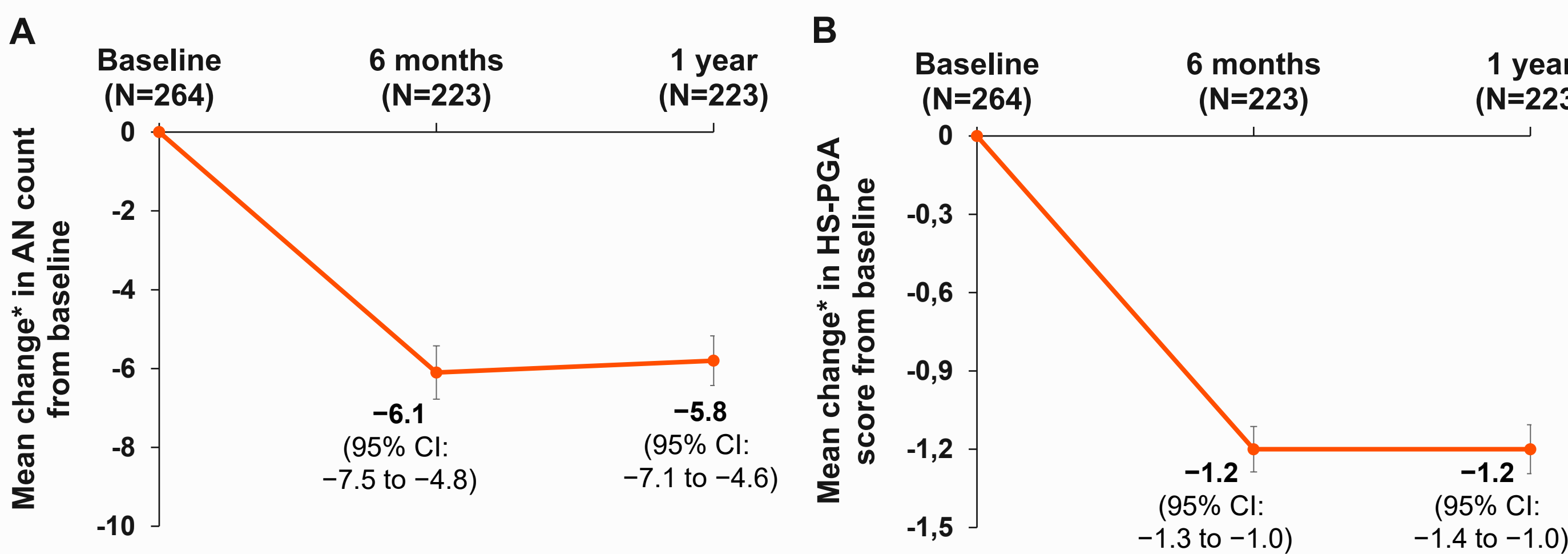
Effectiveness of secukinumab

Figure 4. IHS4-55, IHS4-75 and IHS4-100 response



IHS4-55 is a dichotomous outcome based on a 55% reduction in the total IHS4 score; IHS4-75 and IHS4-100 indicate 75% and 100% reduction in the total IHS4 score. IHS4 International Hidradenitis Suppurativa Severity Scoring System. N Total number of patients in interim analysis Full Analysis Set with available assessments at baseline and the follow-up visit; patients with baseline IHS4 = 0 are not included.

Figure 5. Changes in AN count and HS-PGA score from baseline

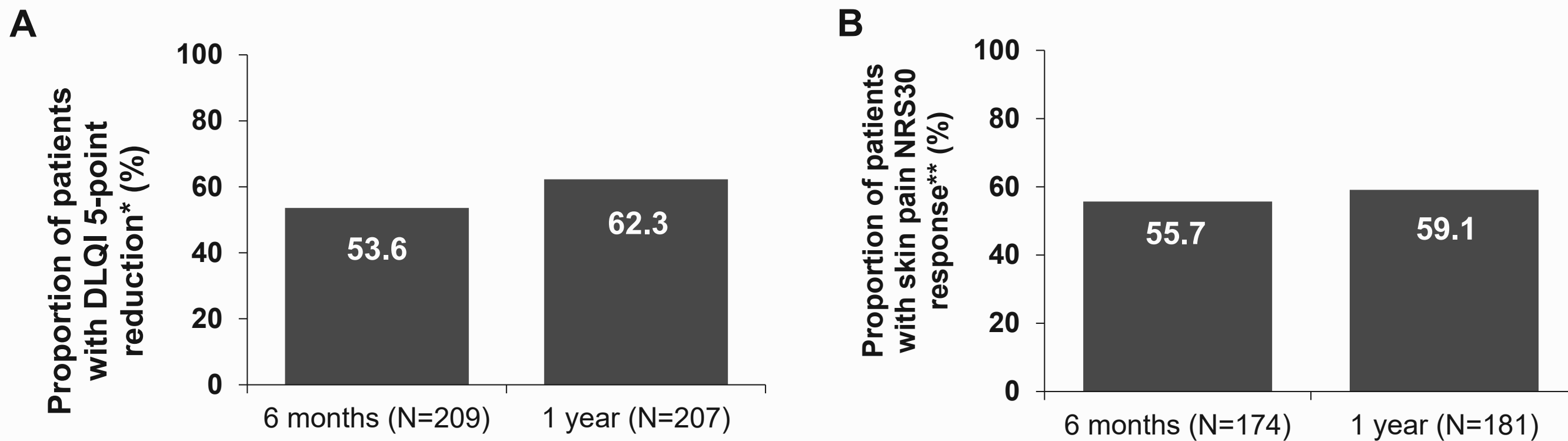


*Change = value at follow-up visit - value at baseline. The change in AN count and HS-PGA can only be calculated if a value is available at baseline and follow-up. Error bars represent standard errors of the mean.
AN Abscess and inflammatory nodule. CI Confidence interval. HS-PGA Hidradenitis Suppurativa Physician's Global Assessment. N total number of patients in interim analysis Full Analysis Set with available assessments at baseline and the follow-up visit.

Patient Reported Outcomes

- Mean DLQI at baseline was 16.9 ± 7.1; baseline DLQI assessment was available in N=257 patients.
- Improvement in quality of life, defined as a ≥5-point reduction in DLQI*, was achieved by 53.6% of patients at Month 6 and 62.3% at Month 12 (**Figure 6A**).
- Skin pain NRS30 response** was achieved by 55.7% of patients at Month 6 and 59.1% at Month 12 (**Figure 6B**).

Figure 6. Proportion of patients achieving a 5-point reduction in DLQI or skin pain NRS30 response



*The analysis of the ≥ 5-point reduction of DLQI is restricted to patients with a baseline score of ≥5.
**Skin Pain NRS30 responders were defined as patients with a ≥ 30% reduction and a ≥ 2-point reduction from baseline in Patient's Global Assessment of Skin Pain-NRS-11 "at its worst" (last 24h). Only the NRS 11 assessment "at its worst" was used. The analysis is restricted to patients with a baseline score "at its worst" of ≥ 3.
DLQI Dermatology life quality index. N total number of patients in interim analysis Full Analysis Set with available assessments at baseline and the follow-up visit. NRS Numeric Rating Scale.



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Impact of Secukinumab on Cardiovascular Disease in Patients with Psoriasis, PsA, and Axial Spondyloarthritis: A Systematic Review of Existing Evidence

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KEY FINDINGS & CONCLUSIONS

- Secukinumab was associated with a low incidence of MACE across thousands of patient-years of exposure across psoriasis, PsA, and axSpA, and consistent reductions in markers of systemic inflammation and oxidative stress, as summarised in **Figure 2**.
- Emerging evidence from vascular imaging suggests potential benefits for vascular health, but larger prospective trials are needed.
- Overall, these data suggest that secukinumab may have possible cardiovascular benefits, likely through reductions in systemic inflammation.

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Poster was previously presented at the American College of Rheumatology (ACR) Convergence, Chicago, Illinois, United States, October 24–29, 2025

INTRODUCTION

- Psoriasis, psoriatic arthritis (PsA), and axial spondyloarthritis (axSpA) are associated with increased risk of cardiovascular (CV) disease driven by chronic systemic inflammation, with IL-17A thought to play a central pathogenic role.¹
- This inflammation contributes to endothelial dysfunction, an early and pivotal step in the development of atherosclerosis, as well as increased arterial stiffness, an important factor in its progression.²
- Secukinumab, a selective IL-17A inhibitor approved for the treatment of psoriasis, PsA, and axSpA, has shown favourable effects on vascular and inflammatory markers with potential CV health implications.^{3,4}

OBJECTIVE

The aim of this review was to systematically evaluate the scientific literature on the impact of secukinumab on CV disease in patients with psoriasis, PsA and axSpA, including its effects on vascular function, inflammatory markers, and long-term safety.

METHODS

Study design

- A systematic review of PubMed was performed according to a pre-defined search strategy. The resulting publications were screened by title, abstract and/or full text for relevance and against inclusion and exclusion criteria (**Table 1**).
- Outcome measures of interest are shown in **Table 2**, and included measures of vascular function, systemic inflammation, and safety in the form of major adverse CV events (MACE). A five-point definition of MACE was used, incorporating CV death, acute myocardial infarction, stroke, unstable angina and heart failure.

Table 1. Search parameters

Domain	Search terms
Intervention	(secukinumab)
	AND
Population	((psoriasis) OR (psoriatic arthritis) OR (ankylosing spondylitis) OR (axial spondyloarthritis))
	AND
Outcome	((cardiovascular disease) OR (cardiovascular death) OR (acute myocardial infarction) OR (stroke) OR (unstable angina) OR (heart failure) OR ("MACE") OR ("major adverse cardiovascular event") OR ("major adverse cardiovascular events") OR (endothelial function) OR (endothelial dysfunction) OR (arterial stiffness) OR (coronary microcirculation) OR (systemic inflammation) OR (oxidative stress) OR (subclinical atherosclerosis) OR (atherosclerotic plaque) OR (CCTA) OR ("coronary CT angiography") OR (fluorodeoxyglucose positron emission tomography computed tomography) OR (FDG PET/CT) OR (flow-mediated dilation) OR (FMD) OR (coronary artery calcium) OR (CAC) OR (GlycA) OR (hsCRP) OR (high-sensitivity C-reactive protein) OR (neutrophil to lymphocyte ratio) OR (NLR))
Excluding	• Case reports and studies with <10 patients treated with secukinumab • Article formats other than prospective studies, retrospective studies or meta-analyses • Articles not reporting on outcome measures of interest • Non-English language publications

Table 2. Pre-specified cardiovascular Outcomes of interest and corresponding measures

Outcome domain	Measures
Vascular function	
Endothelial function	FMD
Arterial stiffness	PWV, CFR, GLS
Vascular imaging	PET/CT, carotid IMT, coronary CT angiography
Systemic inflammation	CRP, NLR, GlycA, malondialdehyde, carbonyl proteins
Cardiovascular safety	MACE (composite of CV death, acute myocardial infarction, stroke, unstable angina, and heart failure)

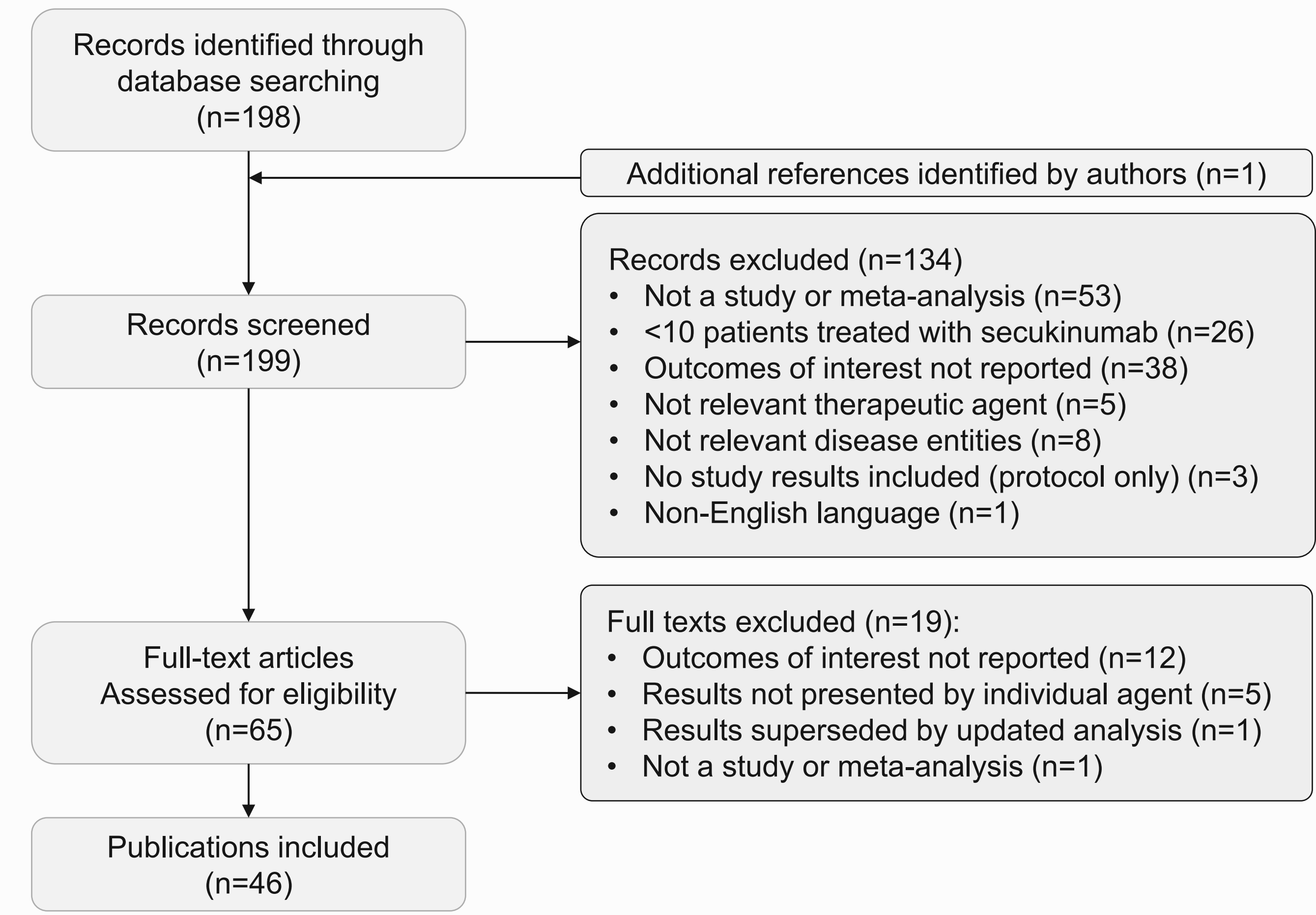
CFR, coronary flow reserve; CRP, C-reactive protein; CTA, computed tomography angiography; CV, cardiovascular; FMD, flow-mediated dilation; GLS, global longitudinal strain; GlycA, glycoprotein acetyls; IMT, intima-media thickness; MACE, major adverse cardiovascular events; NLR, neutrophil-to-lymphocyte ratio; PET/CT, positron emission tomography/computed tomography; PWV, pulse wave velocity

RESULTS

Publications

- **Figure 1** shows the results of a systematic literature review performed on 5 May 2025.

Figure 1. Flow diagram of systematic review process



- From a total of 199 publications initially retrieved by the search, 46 publications were included for review, encompassing meta-analyses or other pooled analyses, randomised controlled trials (RCTs), and retrospective, prospective and observational studies.
- Twenty publications included patients with psoriasis, 5 included patients with PsA, 11 included patients with axSpA, and 10 included multiple indications.
- The number of patients treated with secukinumab ranged from 14–1,988 for studies and trials, and 46–15,644 for pooled and meta-analyses.
- Duration of follow-up ranged from a single visit in cross-sectional studies to 5 years.

Vascular function

- Across several RCTs and prospective studies, secukinumab showed favourable or preserved effects on vascular health in psoriasis and PsA.
 - Endothelial function: FMD significantly improved from baseline,⁴ or was comparable to healthy controls.⁵
 - Arterial stiffness and coronary microvascular function: PWV and CFR were either unchanged or improved.^{4,6}
- Vascular imaging: FDG-PET/CT revealed a neutral effect on vascular inflammation,³ while carotid IMworT was reduced compared with baseline and also versus topical therapy.⁷

Systemic inflammation

- Secukinumab generally reduced markers of systemic inflammation and oxidative stress.
 - **CRP:** Multiple RCTs and pooled analyses of over 9,000 patients showed rapid and sustained CRP reductions across psoriasis, PsA and axSpA;^{8,9} however, not all studies reported significant changes.
 - **NLR:** Large pooled datasets and smaller studies generally reported reductions in NLR over time,⁸ or cross-sectional NLR values comparable to healthy controls.⁵
 - **Oxidative stress:** Studies reported significant reductions at 12 months in malondialdehyde,⁶ carbonyl proteins,⁶ and superoxide anion radicals,¹⁰ as well as an increase in superoxide dismutase activity.¹⁰

Cardiovascular safety

- Of 23 publications reporting CV safety outcomes, one of the largest analyses reported pooled clinical trial data across approved indications corresponding to >27,700 patient-years (PY) of exposure to secukinumab, plus post-marketing surveillance data comprising >1,159,000 PY of exposure.¹¹
- Across publications and in each indication, the incidence of MACE was low, with rates generally consistent with control groups. Secukinumab was not associated with an increased risk of MACE.^{9,11-19}

Figure 2. Summary of reports from retrieved publications on cardiovascular outcomes of interest

	Change from baseline	Compared with placebo /healthy controls
Vascular function		
Endothelial function	FMD	↑
Arterial stiffness	PWV	↑ =
	CFR	↑
	GLS	↑
Vascular imaging	PET/CT	↑ =
	Carotid IMT	↑
Systemic inflammation		
CRP	↑ x 14 = x 7	↑ x 2
NLR	↑ x 4 = x 2	
GlycA	=	
Malondialdehyde	↑	
Carbonyl proteins	↑	
Superoxide anion radicals	↑	
Superoxide dismutase activity	↑	
Cardiovascular safety		
MACE	—	= x 5

↑ Improvement ↓ Worsening = No change x N Number of publications reporting outcome (if not 1)

CFR, coronary flow reserve; CRP, C-reactive protein; FMD, flow-mediated dilation; GLS, global longitudinal strain; GlycA, glycoprotein acetyls; IMT, intima-media thickness; MACE, major adverse cardiovascular events; NLR, neutrophil-to-lymphocyte ratio; PET/CT, positron emission tomography/computed tomography; PWV, pulse wave velocity

References

1. González-Cantero A, et al. J Invest Dermatol 2021;141:2402–11; 2. Puig L. Int J Mol Sci 2017;19; 3. Gelfand JM, et al. J Invest Dermatol 2020;140:1784–93.e2; 4. von Stebut E, et al. J Invest Dermatol 2019;139:1054–62; 5. Merzel Šabović EK, Sci Prog 2024;107:368504241287893; 6. Makavos G, et al. Can J Cardiol 2020;36:100–11; 7. Gumus EC, et al. Arch Dermatol Res 2025;317:286; 8. Merola JF, et al. Rheumatol Ther 2022;9:935–55; 9. Marzo-Ortega H, et al. Lancet Rheumatol 2020;2:e339–e46; 10. Medovic MV, et al. Biomedicines 2024;12; 11. Sun R, et al. Dermatol Ther (Heidelb) 2024;14:729–43; 12. Banefelt J, et al. J Am Acad Dermatol 2025;93:104–14. 13. McInnes IB, et al. Rheumatology (Oxford) 2017;56:1993– 2003. 14. Mease PJ, et al. N Engl J Med 2015;373:1329–39. 15. Papp K, et al. Lancet Rheumatol 2023;5:e542–e52. 16. Thaci D, et al. J Eur Acad Dermatol Venereol 2020;34:310–8; 17. van de Kerkhof PC, et al. J Am Acad Dermatol 2016;75:83–98.e4; 18. Marzo-Ortega H, et al. Arthritis Care Res (Hoboken) 2017;69:1020–9; 19. Pavelka K, et al. ACR Open Rheumatol 2020;2:119–27.

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