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Spesolimab treatment improves CGI scores via the JDA severity index in patients with GPP

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Patients with a GPP flare who were treated with intravenous spesolimab 900 mg achieved improvements in Clinical Global Impression-Improvement (CGI-I) scores and the Japanese Dermatological Association GPP Severity Index (JDA-GPPSI)

PURPOSE

To summarize the effect of IV spesolimab 900 mg in patients experiencing a GPP flare at Week 1 on CGI-I and the JDA-GPPSI

INTRODUCTION

- GPP is a rare and potentially life-threatening neutrophilic skin disease characterized by episodes of widespread eruption of sterile, macroscopic pustules; it can occur with or without systemic inflammation and with or without plaque psoriasis[1,2]
- In the Effisayil™ 1 study (NCT03782792), patients with a GPP flare (N=53) were randomized to receive intravenous spesolimab 900 mg or placebo at baseline and were followed for 12 weeks
- Here we report the CGI-I scores achieved at Week 1 and the change from baseline in JDA-GPPSI over time

CONCLUSIONS

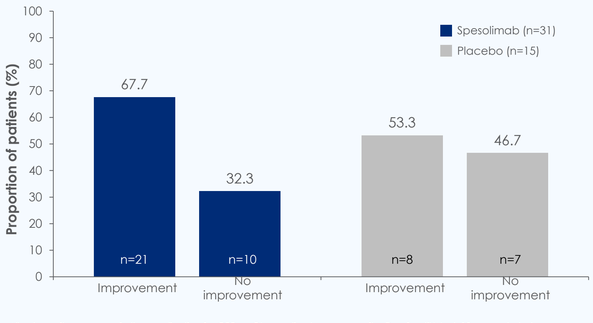
- At Week 1, a higher proportion of patients in the spesolimab arm achieved an improvement in CGI-I scores than the placebo arm. Most patients in the spesolimab arm were "very much improved"
- Spesolimab improved JDA-GPPSI scores over time in patients with GPP regardless of disease severity
- Patients in the placebo arm began achieving similar JDA-GPPSI scores to those in the spesolimab arm after receiving OL spesolimab at Day 8

METHODS

- CGI-I was made based on improvement of JDA-GPPSI scores and is used in Japan to assess illness global improvement in clinical trials. It consists of five category scores:
  1 = very much improved, 2 = much improved, 3 = minimally improved, 4 = no change, 5 = worsened[3]
- JDA-GPPSI is a GPP-specific measure with seven components; BSA with total erythema; pustules; edema; fever; WBC count; CRP; and serum albumin. Skin symptoms and laboratory tests are assigned a score of 0–3 and 0–2, respectively; the total of which classifies patients as having mild (0–6), moderate (7–10), or severe (11–17) disease[4]
- CGI-I and JDA-GPPSI were measured on Days 2–3, at Weeks 1–4, 8, and 12. JDA-GPPSI was also measured at baseline
- The Generalized Pustular Psoriasis Physician Global Assessment (GPPGA) assigns scores of 0 to 4 for erythema, scaling, and pustulation.[5] Eligible patients had to have a GPPGA total score ≥3 and GPPGA pustulation subscore ≥2 at baseline

RESULTS

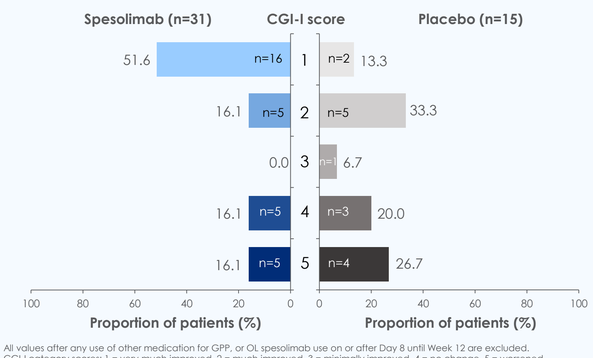
Improvement in CGI-I score vs no improvement or worsening at Week 1



All values after any use of other medication for GPP, or OL spesolimab use on or after Day 8 until Week 12 are excluded.
Improvement corresponds to patients with a CGI-I score of 1–3. No improvement or worsened = 4 or 5.

A larger proportion of patients in the spesolimab arm achieved an improvement in CGI-I score at Week 1 compared with patients in the placebo arm

Improvement in CGI-I score by category at Week 1



All values after any use of other medication for GPP, or OL spesolimab use on or after Day 8 until Week 12 are excluded.
CGI-I category scores: 1 = very much improved, 2 = much improved, 3 = minimally improved, 4 = no change, 5 = worsened.

Over 50% of patients in the spesolimab arm achieved a CGI-I score of very much improved at Week 1 compared with patients in the placebo arm

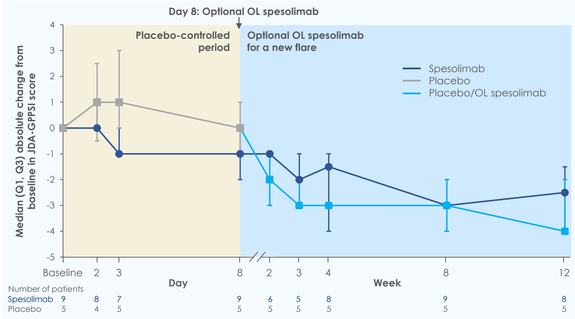
Summary of adverse events

n (%)* [rate/100 patient-years]	Week 1		Week 12
	Spesolimab (n=35)	Placebo (n=18)	Spesolimab (n=51)
Any AE	23 (65.7) [5874.7]	10 (55.6) [4623.4]	42 (82.4) [981.5]
Severe AE (Rheumatology Common Toxicity Criteria [RCTC] grade 3 or 4)	2 (5.7) [309.5]	1 (5.6) [304.4]	5 (9.8) [40.9]
Investigator-defined drug-related AE	10 (28.6) [1747.6]	5 (27.8) [1773.1]	28 (54.9) [353.5]
Serious AE	2 (5.7) [309.5]	0	6 (11.8) [49.7]
Death	0	0	0
AE leading to discontinuation of treatment	0	0	0
Common AE†			
Pyrexia	2 (5.7) [313.5]	4 (22.2) [1404.8]	5 (9.8) [41.3]
Dizziness	0	2 (11.1) [619.1]	0
Serious AE			
Drug reaction with eosinophilia and systemic symptom (DRESS)**	1 (2.9) [154.1]	0	2 (3.9) [15.9]
Urinary tract infection	1 (2.9) [154.1]	0	1 (2.0) [7.8]
Drug-induced liver injury‡	1 (2.9) [154.1]	0	1 (2.0) [7.8]
Arthritis	1 (2.9) [152.2]	0	1 (2.0) [7.8]
Chronic plaque psoriasis worsening§	0	0	1 (2.0) [7.8]
Influenza	0	0	1 (2.0) [7.7]
Squamous cell carcinoma of the skin	0	0	1 (2.0) [7.7]

*All AEs occurring between the start of treatment and the end of the residual effect period **(this was 16 weeks after the last dose of trial medication for patients who received optional spesolimab on or after Day 8) were considered "treatment emergent"**. AE severity was graded according to the Rheumatology Common Toxicity Criteria (RCTC)[4] version 2.0 safety analysis set. Pustular psoriasis was excluded as an AE from this safety analysis: †Common AEs are reported in ≥10% of patients in any treatment group; **One patient had a RegiSCAR score of 1 (no DRESS) and the other patient had a RegiSCAR score of 3 (possible DRESS) ‡Drug-induced liver injury was reflected by an increase of transaminases and was considered a systemic symptom of drug reaction with eosinophilia; §Chronic plaque psoriasis worsening captures events that were reflective of non-pustular psoriasis; these events were not captured in the efficacy outcomes.

Spesolimab had an acceptable safety profile, with AE rates comparable between spesolimab and placebo arms

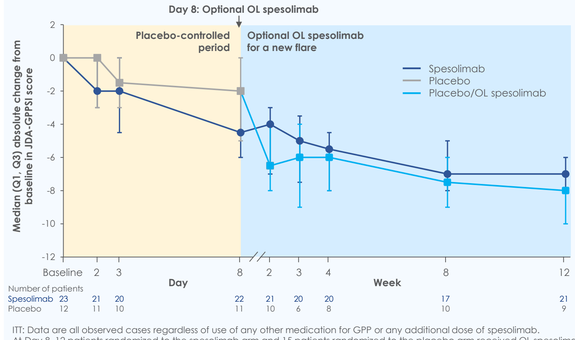
Median absolute change from baseline in JDA-GPPSI in patients with mild disease at baseline



ITT: Data are all observed cases regardless of use of any other medication for GPP or any additional dose of spesolimab.
At Day 8, 12 patients randomized to the spesolimab arm and 15 patients randomized to the placebo arm received OL spesolimab.
After Day 8, 4 patients in the spesolimab arm and 2 in the placebo arm received spesolimab for a new flare.

In patients with mild disease at baseline, spesolimab improved JDA-GPPSI scores over time

Median absolute change from baseline in JDA-GPPSI in patients with moderate-to-severe disease at baseline



ITT: Data are all observed cases regardless of use of any other medication for GPP or any additional dose of spesolimab.
At Day 8, 12 patients randomized to the spesolimab arm and 15 patients randomized to the placebo arm received OL spesolimab.
After Day 8, 4 patients in the spesolimab arm and 2 in the placebo arm received spesolimab for a new flare.

In patients with moderate-to-severe disease at baseline, spesolimab improved JDA-GPPSI scores over time

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Abbreviations

AE, adverse event; BSA, body surface area; **CGI-I**, Clinical Global Impression-**Improvement**; CRP, C-reactive protein; GPP, generalized pustular psoriasis; GPPGA, Generalized Pustular Psoriasis Physician Global Assessment; ITT, intention to treat; JDA, Japanese Dermatological Association; **JDA-GPPSI, Japanese Dermatological Association-Generalized Pustular Psoriasis Severity Index;** OL, open-label; RCTC, Rheumatology Common Toxicity Criteria; WBC, white blood cell.

References

1. Navarini AA, et al. *J Eur Acad Dermatol Venereol* 2017;31:1792–1799; 2. Bachelez H. *Acta Derm Venereol* 2020;100:adv00034; **3. Imafuku S, et al.** *J Dermatol* **2016;43:1011–1017; 4. Morita A, et al.** *J Dermatol* **2018;45:1371–1380; 5. Bachelez H, et al.** *N Engl J Med* **2019;380:981–983; 6.** Woodworth T, et al. *J Rheum* **2014;41:2336**

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