Nail Outcome Improvements with Certolizumab Pegol in Moderate to Severe Plaque Psoriasis: Results from Phase 3 Trials

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OBJECTIVE

- To report the impact of 48 weeks' certolizumab pegol treatment on nail disease outcomes in patients with moderate to severe plaque psoriasis.

BACKGROUND

- Plaque psoriasis (PSO) is an immune-mediated, inflammatory disease; treatment options include systemic medication, phototherapy and biologic agents.
- Certolizumab pegol (CZP) is a unique, Fc-free, PEGylated, anti-tumor necrosis factor (TNF) biologic approved for the treatment of adults with moderate to severe PSO by the FDA and EMA.[1,2]
- CZP has demonstrated sustained improvements in the skin disease of adults with moderate to severe PSO in phase 3 trials.[3,4]
- In the RAPID-PsA phase 3 trial of CZP in psoriatic arthritis (PsA), 54% of patients achieved total resolution of their nail disease after 48 weeks' CZP treatment, increasing to 71% after 4 years.[5] However, nail disease outcomes from the CZP in PSO phase 3 trials have not yet been reported.
- Here, nail disease outcomes in patients with PSO who received double-blinded CZP over 48 weeks in three phase 3 trials are presented.

METHODS

Study Design

- Patients with PSO were enrolled in three phase 3, placebo-controlled, double-blind trials of CZP in adults with moderate to severe PSO: CIMPASI-1 (NCT02326298), CIMPASI-2 (NCT02326272) and CIMPACT (NCT02346240) **(Figure 1)**.[3,4]

Patients

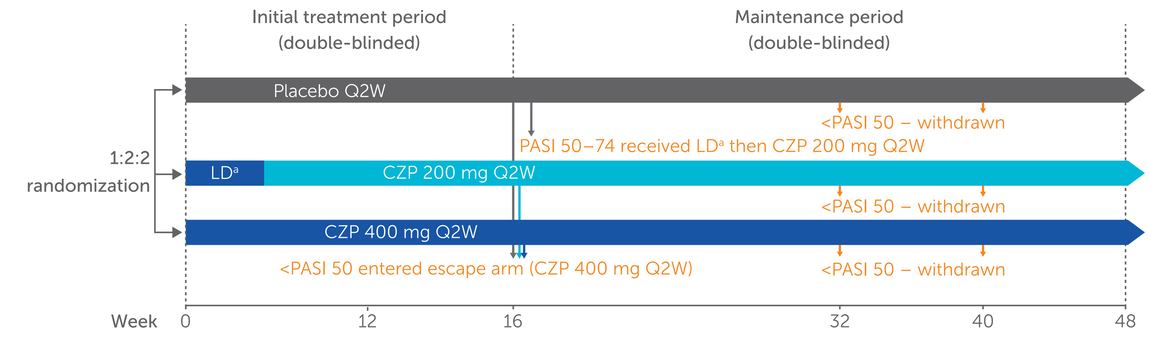
- Inclusion criteria: ≥18 years of age with PSO for ≥6 months with Psoriasis Area Severity Index (PASI) ≥12, ≥10% body surface area affected, Physician's Global Assessment ≥3 on a 5-point scale. Candidates for systemic PSO therapy, phototherapy and/or photochemotherapy.
- Exclusion criteria: previous treatment with CZP or >2 biologics; previous treatment with etanercept (ETN) (CIMPACT only); treatment with ETN within the first 12-weeks of enrolment (CIMPASI-1 and CIMPASI-2 only); history of primary failure to any biologic or secondary failure to >1 biologic; erythrodermic, guttate or generalized PSO types; current or history of chronic or recurrent viral, bacterial or fungal infections.
- Presence or absence of concomitant PsA (+PsA and −PsA respectively) was self-reported by patients at baseline.
- This analysis includes patients with nail disease at baseline (defined as a modified Nail Psoriasis Severity Index [mNAPSI] score >0) who received the same dose of CZP through 48 weeks.

Study Assessments and Statistical Analyses

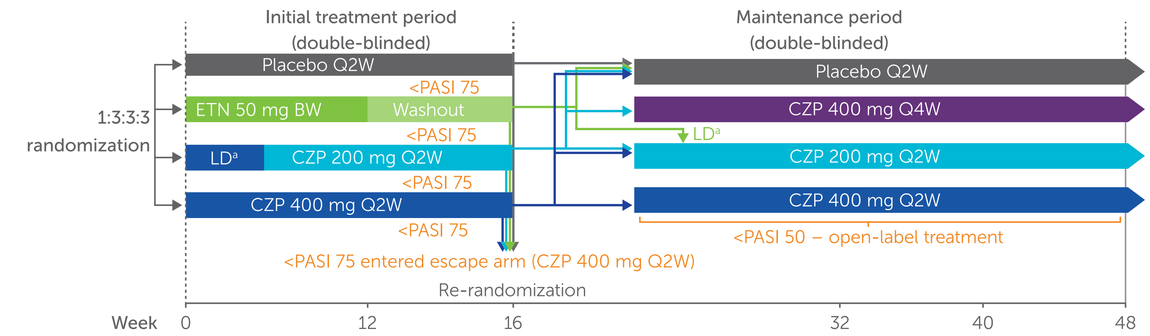
- mNAPSI 75 (≥75% improvement from baseline), total resolution of nail disease (mNAPSI=0) and change from baseline in mNAPSI are reported at Week 48 (post-baseline mNAPSI was not measured prior to Week 48).
- Observed data are reported for patients who received CZP 200 mg every two weeks (Q2W) and CZP 400 mg Q2W, stratified by self-reported PsA at baseline.
- Data are pooled for CIMPASI-1 and CIMPASI-2.

Figure 1. Study design for CZP in PSO phase 3 trials

A) CIMPASI-1 and CIMPASI-2

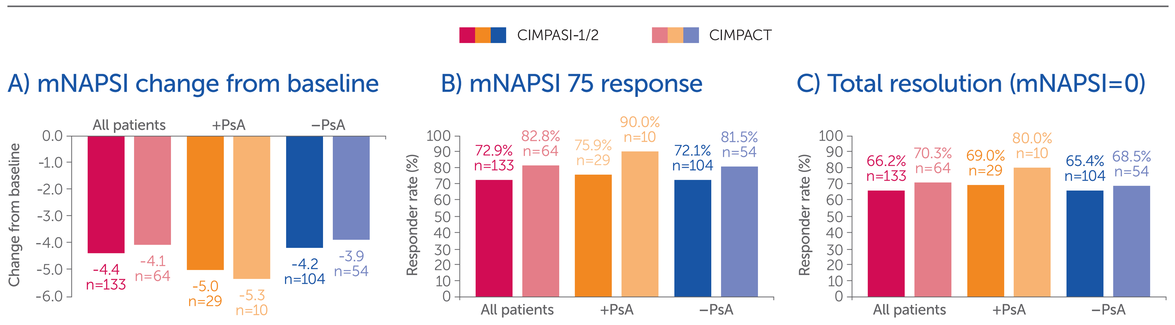


B) CIMPACT



Only patients who received the same dose of CZP through Weeks 0–48 are included in these analyses. [a]Patients received CZP 400 mg loading dose at Weeks 0, 2 and 4 or Weeks 16, 18 and 20. BW: bi-weekly; CZP: certolizumab pegol; ETN: etanercept; LD: loading dose; PASI: Psoriasis Area Severity Index; Q2W: every two weeks; Q4W: every four weeks.

Figure 2. Week 48 nail disease outcomes in PSO patients with and without PsA treated with CZP in CIMPASI-1/CIMPASI-2 and CIMPACT



Observed case data are reported for all patients with PSO who had nail disease at baseline (mNAPSI >0) treated with CZP (dose combined: CZP 400 mg or 200 mg Q2W following a 400 mg loading dose at Weeks 0, 2, 4) through 48 weeks in CIMPASI-1/2 and CIMPACT, and for the subpopulations of patients with and without self-reported PsA (+PsA/−PsA). CZP: certolizumab pegol; mNAPSI: modified Nail Psoriasis Severity Index; mNAPSI 75: ≥75% improvement in mNAPSI; PsA: psoriatic arthritis; PSO: plaque psoriasis.

Table 1. Demographics and baseline characteristics of CZP-treated patients with nail disease in CIMPASI-1/CIMPASI-2 and CIMPACT

	All PSO patients		PSO patients +PsA		PSO patients −PsA	
	CIMPASI-1/2 (N=154)	CIMPACT (N=71)	CIMPASI-1/2 (N=37)	CIMPACT (N=12)	CIMPASI-1/2 (N=117)	CIMPACT (N=59)
Age, years, mean ± SD	45.9 ± 13.0	43.2 ± 12.4	48.1 ± 13.1	44.9 ± 13.9	45.2 ± 13.0	42.8 ± 12.1
Male, n (%)	112 (72.7)	47 (66.2)	23 (62.2)	6 (50.0)	89 (76.1)	41 (69.5)
BMI, kg/m², mean ± SD	30.6 ± 6.5	28.3 ± 5.0	31.9 ± 7.1	28.0 ± 6.5	30.2 ± 6.2	28.3 ± 4.8
Prior biologic use, n (%)	61 (39.6)	18 (25.4)	16 (43.2)	6 (50.0)	45 (38.5)	12 (20.3)
Anti-TNF	39 (25.3)	0 (0.0)	12 (32.4)	0 (0.0)	27 (23.1)	0 (0.0)
Anti-IL-17	11 (7.1)	14 (19.7)	3 (8.1)	6 (50.0)	8 (6.8)	8 (13.6)
Anti-IL-12/IL-23	8 (5.2)	2 (2.8)	1 (2.7)	0 (0.0)	7 (6.0)	2 (3.4)
PSO duration, years, mean ± SD	19.3 ± 12.9	19.1 ± 11.0	20.2 ± 14.1	23.8 ± 15.1	19.0 ± 12.6	18.2 ± 9.9
PASI, mean ± SD	19.8 ± 8.1	21.0 ± 7.5	19.4 ± 9.9	17.9 ± 5.6	19.9 ± 7.5	21.6 ± 7.8
BSA affected, %, mean ±SD	24.2 ± 14.3	28.0 ± 16.8	22.7 ± 14.7	22.6 ± 12.2	24.6 ± 14.2	29.1 ± 17.5
PGA, n (%)						
3 (moderate)	112 (72.7)	50 (70.4)	27 (73.0)	11 (91.7)	85 (72.6)	39 (66.1)
4 (severe)	42 (27.3)	21 (29.6)	10 (27.0)	1 (8.3)	32 (27.4)	20 (33.9)
mNAPSI, mean ± SD	5.2 ± 3.0	4.6 ± 2.7	5.9 ± 3.1	5.7 ± 2.3	5.0 ± 2.9	4.4 ± 2.8

Data are reported for patients with nail disease at baseline (mNAPSI >0) treated with CZP (dose combined: CZP 400 mg or 200 mg Q2W following a 400 mg loading dose at Weeks 0, 2, 4) through 48 weeks. BMI: body mass index; BSA: body surface area; CZP: certolizumab pegol; IL: interleukin; mNAPSI: modified Nail Psoriasis Severity Index; PASI: Psoriasis Area Severity Index; PGA: physician's global assessment; PsA: psoriatic arthritis; +PsA/−PsA: patients with PSO with/without self-reported PsA; PSO: plaque psoriasis; Q2W: every two weeks; SD: standard deviation; TNF: tumor necrosis factor.

RESULTS

- 154 patients in CIMPASI-1/2 and 71 patients in CIMPACT had nail disease at baseline and were randomized to CZP treatment at Week 0.
- Patient baseline characteristics are shown in **Table 1**.
- Patients completing 48 weeks of CZP treatment in CIMPASI-1/2 or CIMPACT demonstrated considerable improvement in their nail disease **(Figure 2A)**, and of these:
  - Over 70% patients achieved mNAPSI 75 **(Figure 2B)**
  - Over 65% demonstrated total resolution of their nail disease **(Figure 2C)**.
- Similar results were observed between patients with and without self-reported concomitant PsA **(Figure 2)**.

CONCLUSIONS

- Substantial proportions of patients with PSO treated with CZP over 48 weeks showed improved nail disease, with more than 6 in every 10 patients achieving total resolution.
- CZP demonstrated similar efficacy in treating nail disease in PSO patients with and without concomitant PsA.
- The efficacy of CZP treatment on nail disease outcomes observed in patients with PSO is comparable with previously reported efficacy in patients with PsA.

References

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Author Contributions

Substantial contributions to study conception/design, or acquisition/analysis/interpretation of data: ABG, DT, CL, YP, SK, MB, KR; Drafting of the publication, or revising it critically for important intellectual content: ABG, DT, CL, YP, SK, MB, KR; Final approval of the publication: ABG, DT, CL, YP, SK, MB, KR.

Author Disclosures

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