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Subcutaneous infliximab (CT-P13 SC) as maintenance therapy for Crohn's disease : 2 years results of LIBERTY-CD study

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CONCLUSIONS

- Efficacy of CT-P13 SC was maintained through the 2 years.
- No new safety concerns were observed during the 2 years of CT-P13 SC treatment.
- These results show that CT-P13 SC provides both a long-term clinical benefit and safety with the convenience of SC administration for moderately to severely active CD patients.

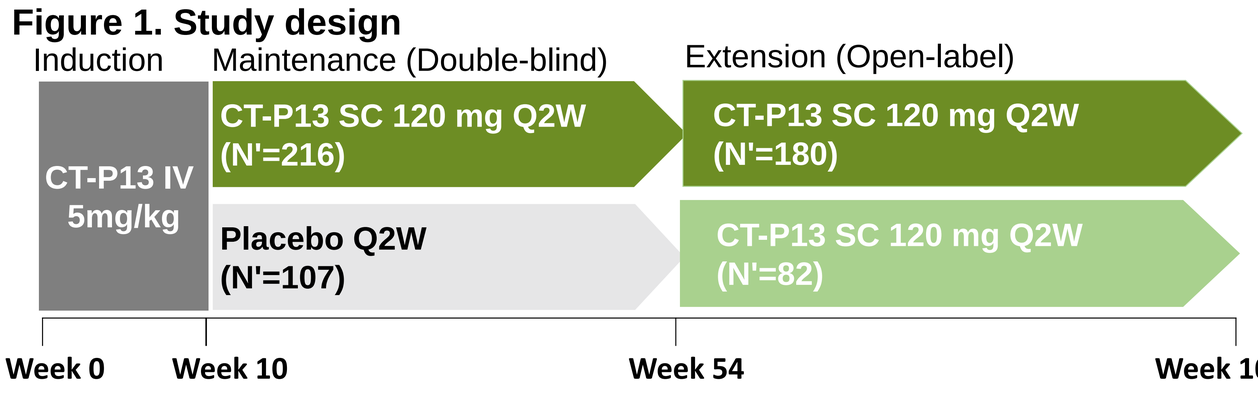
BACKGROUND

- Superiority of CT-P13 subcutaneous (SC) infliximab formulation over placebo in maintenance therapy was demonstrated in both CD[1] and UC[2].
- We now present the efficacy and safety results up to Week 102 of CT-P13 SC 120 mg group in the LIBERTY-CD study (NCT03945019).

1. Colombel et al., J Crohns Colitis, 2023.17.Supplement_1: i161-i162.
2. Sands et al., J Crohns Colitis, 2023.17. Supplement_1: i623-i624.

METHODS and Baseline Characteristics

Figure 1. Study design



- Patients who received adjusted dose of CT-P13 240 mg during maintenance phase continued receiving CT-P13 240 mg in the extension phase.

Key eligibility criteria

- Patients with moderately to severely active CD (CDAI 220 to 450; SES-CD ≥6 points for ileal-colonic CD or ≥4 points for isolated ileal CD)
- Failure of Conventional therapy (corticosteroids and/or immunosuppressants)
- Previously received less than 2 biologic agents, 2 Janus kinase (JAK) inhibitors, or 2 of both biologic agents and JAK inhibitors.

Table 1. Demographics

		CT-P13 SC 120mg (N'=180)
Age, median (range)	Years	35.0 (18, 75)
Sex, n (%)	Male	103 (57.2)
Race, n (%)	White	163 (90.6)
Weight at baseline, median (range)	Kg	65.30 (41, 126)
Disease duration of CD, median (range)	Years	2.29 (0.2, 33.8)
Biologics and/or JAK inhibitors history, n (%)	Used	20 (11.1)
CDAI at baseline, mean (SD)	Score	311.99 (57.273)
SES-CD at baseline, mean (SD)	Score	12.0 (6.72)
Immunomodulators at baseline, n (%)	Used	63 (35)
Oral corticosteroids at baseline, n (%)	Used	74 (41.1)

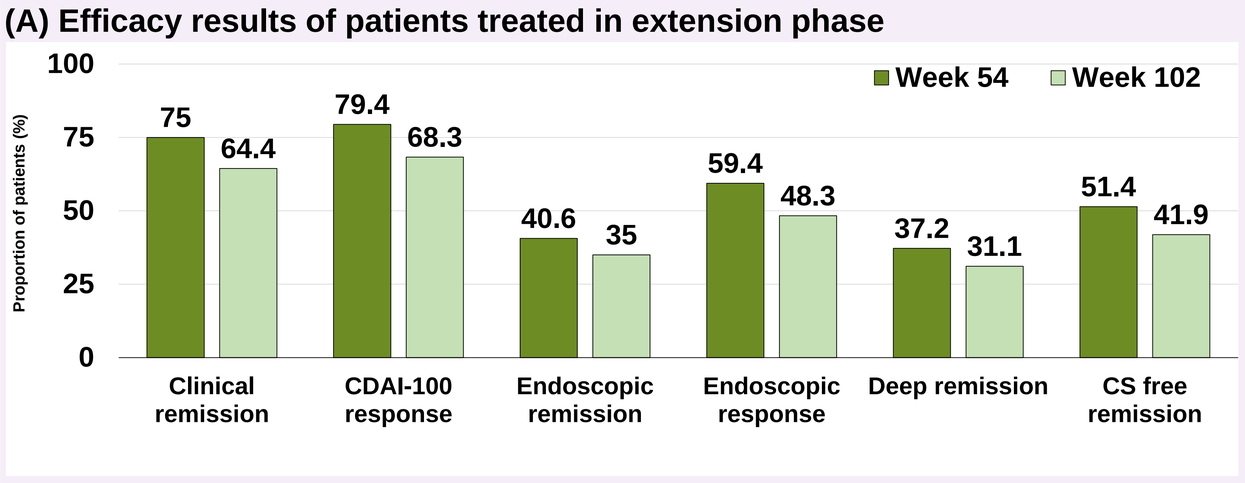
Abbreviations: CD, Crohn's disease; CDAI, Crohn's disease active index; JAK, Janus kinase; SC, subcutaneous; SD, standard deviation; SES-CD, simple endoscopic score for Crohn's disease
N': The number of patients who treated in extension phase and have a SES-CD score at least 6 (or at least 4 if isolated ileal disease) at Screening in All-randomized population.

RESULTS

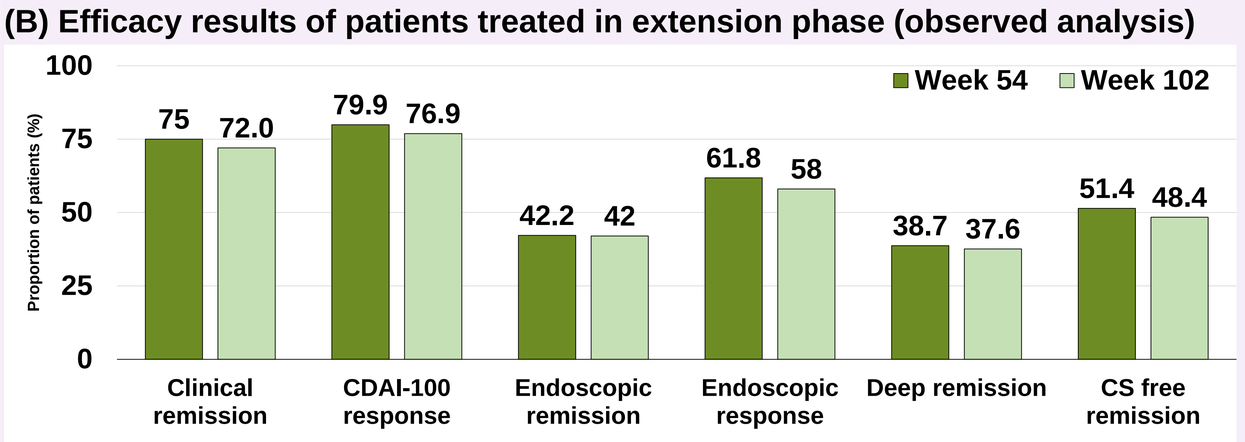
Efficacy

Figure 2. Efficacy results in CT-P13 SC arm

(A) Efficacy results of patients treated in extension phase

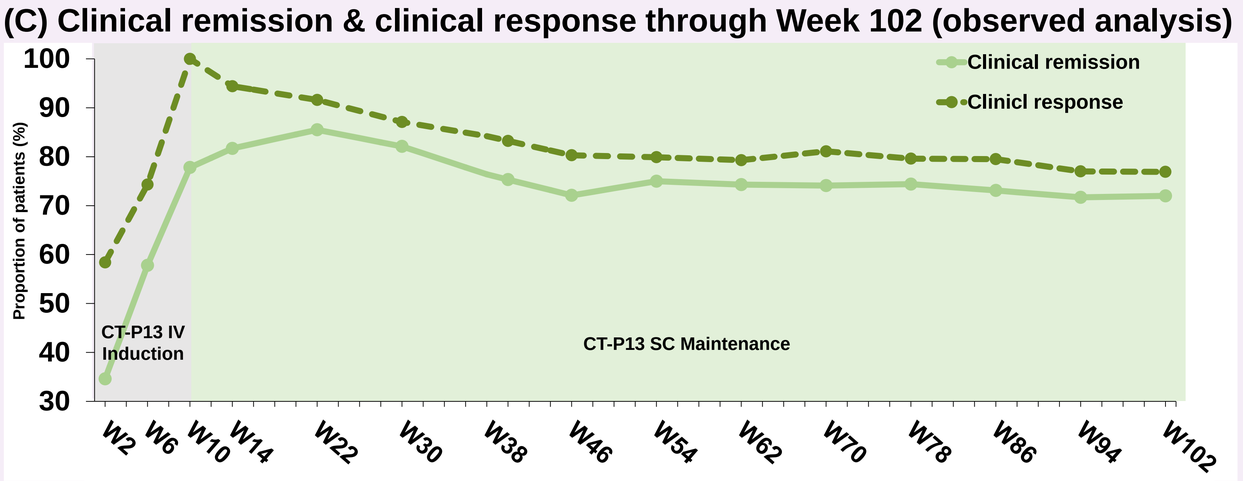


(B) Efficacy results of patients treated in extension phase (observed analysis)



- Compared to the W54, efficacy results of patients treated extension phase in the CT-P13 SC arm were generally maintained at W102 based on the nonresponder imputation (NRI) analysis for missing or invalid data (Figure 2.A).
- Efficacy results based on the no imputation for missing or invalid data (i.e, observed data analysis) at W54 and W102 were similar (Figure 2.B).
- High clinical remission and response rates based on observed data analysis were maintained from W10 (CT-P13 SC initiation) to W102 (Figure 2.C).

(C) Clinical remission & clinical response through Week 102 (observed analysis)



Abbreviations: CDAI, Crohn's disease active index; CS, Corticosteroid; SC, subcutaneous; SES-CD, simple endoscopic score for Crohn's disease; IV, intravenous; W, week.
Endpoint definition: Clinical remission, CDAI score of <150; CDAI-100 response, decrease in CDAI score of 100 or more from the baseline value; Endoscopic remission, SES-CD score of ≤4 with no sub-score of >1 ; Endoscopic response, >50% decrease in SES-CD score from the baseline value; Deep remission, composite of clinical remission and endoscopic remission; Corticosteroid-free remission at Week 54 and Week 102, being in clinical remission (CDAI <150) in addition to not receiving any corticosteroids for at least 8 weeks prior to Week 54 or Week 102, among the patients who used oral corticosteroids at Baseline.
Note: Patients with dose adjustment to CT-P13 SC 240 mg prior to their scheduled visit of interest were considered as non-responder/non-remitter.

Safety

Table 2. Safety results in maintenance and extension phases

Number of Patients (%)		CT-P13 SC 120mg (N'=186)
TEAEs	Total	151 (81.2)
	Related	48 (25.8)
TESAEs	Total	21 (11.3)
	Related	0
Systemic injection reaction	Total	1 (0.5)
Delayed hypersensitivity	Total	0
Localized injection site reaction	Total	13 (7.0)
Infection	Total	84 (45.2)
	Related	10 (5.4)
Study drug discontinuation due to TEAE	Total	7 (3.8)
	Related	3 (1.6)
Malignancy	Total	0

Abbreviations: AE, adverse event; TEAE, treatment-emergent adverse event; TESAE, treatment-emergent serious adverse event.
Note: The AEs occurred in Maintenance and Extension phase are included and all data collected regardless of dose adjustment are included in this summary.
N': The number of patients who treated in extension phase and have a SES-CD score at least 6 (or at least 4 if isolated ileal disease) at Screening in Safety population.

Table 3. Immunogenicity in treatment period

Number of Patients (%)	CT-P13 SC 120mg (N'=186)
Positive Conversion in ADA, n/N (%)	131/181 (72.4)

Abbreviations: ADA, Anti-drug antibody.
Note: Number of patients who have at least one immunogenicity result (including not reported result) after Week 0 study drug administration and have not any ADA positive result before Week 0 study drug administration are used as the denominator. Number of patients who reported at least one ADA positive after Week 0 study drug administration (regardless of dose adjustment) during Treatment Period are used as the numerator.
N': The number of patients who treated in extension phase and have a SES-CD score at least 6 (or at least 4 if isolated ileal disease) at Screening in Safety population.

- There was no new safety issue reported during the maintenance and extension phase.
- ADA conversion rate in the CT-P13 SC group is presented in Table 3.
- ADA was detected based on an electrochemiluminescence affinity capture elution method which is new-generation, high-sensitivity, drug-tolerant assays that were validated according to the regulatory guidelines[1,2].

1. Guideline on Immunogenicity assessment of therapeutic proteins (EMEA/CHMP/BMWP/14327/2006 Rev. 1.
2. Guidance for Industry: Assay Development for Immunogenicity Testing of Therapeutic Proteins (FDA, 2019).

DISCLOSURE: J.F. Colombel: Receiving payment for lectures from AbbVie, Amgen, Allergan, Inc. Ferring Pharmaceuticals, Shire, and Takeda; Receiving consulting fees from AbbVie, Amgen, Arena Pharmaceuticals, Boehringer Ingelheim, BMS, Celgene Corporation, Eli Lilly, Ferring Pharmaceuticals, Galmed Research, Genentech, Glaxo Smith Kline, Janssen Pharmaceuticals, Kaleido Biosciences, Imedex, Immunic, Iterative Scopes, Merck, Microbia, Novartis, PBM Capital, Pfizer, Protagonist Therapeutics, Sanofi,Takeda, TiGenix, Vifor; Hold stock options in Intestinal Biotech Development. S.B. Hanauer: Consultancy from AbbVie, Allergan, Amgen, Arena, Astra Zeneca, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Cosmos, Catalys Pacific, Covance, Genentech, GSK, Janssen, Lilly, Merck, Novartis, Pfizer, Progenity, Prometheus, Receptos, Salix, Samsung Bioepis, Seres Therapeutics, Sorriso, Takeda, TLL, UCB, Vhsquared; Clinical Research for AbbVie, Allergan, Amgen, Celgene, Genentech, GSK, Janssen, Lilly, Novartis, Pfizer, Prometheus, Receptos, Takeda, UCB. Speaker for AbbVie, Bristol Myers Squibb, Janssen, Pfizer, Takeda; Independent Data Monitoring Conference for Arena, Boehringer Ingelheim, Bristol Myers Squibb, Gossamer, Prometheus, Protagonist. W. 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Sands: Consultant or received speaker's fees from AbbVie, Abivax, Adiso Therapeutics, AgomAb, Alimentiv, Amgen, Arena Pharmaceuticals, Artizan Biosciences, Artugen Therapeutics, AstraZeneca, Bacainn Therapeutics, Biora Therapeutics, Boehringer Ingelheim, Boston Pharmaceuticals, Bristol Myers Squibb, Calibr, Celltrion, ClostraBio, Connect Biopharm, Cytoki Pharma, Eli Lilly and Company, Enthera, Evommune, Ferring, Fresenius Kabi, Galapagos, Gilead Sciences, Genentech, Glaxo SmithKline, Gossamer Bio, HMP Acquisition, Imhotex, Immunic, InDex Pharmaceuticals, Innovation Pharmaceuticals, Inotrem, Ironwood Pharmaceuticals, Janssen, Johnson & Johnson, Kaleido, Kalyope, Merck, MiroBio, Morphic Therapeutic, MRM Health, OSE Immunotherapeutics, Pfizer, Progenity, Prometheus Biosciences, Prometheus Laboratories, Protagonist Therapeutics, Q32 Bio, RedHill Biopharma, Sun Pharma Global, Surrozen, Synlogic Operating Company, Takeda, Target RWE, Theravance Biopharma R&D, TLL Pharmaceutical, USWM Enterprises, Ventyx Biosciences, Viela Bio. 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