Preliminary Baseline Subject Demographics and Disease Characteristics in a Phase 3 Clinical Trial of Safety and Efficacy of Lenabasum in Dermatomyositis (DETERMINE)

Victoria P. Werth[1], Chester Oddis[2], David Fiorentino[3], Nancy Dgetluck[4], Quinn Dinh[4], Michael Tillinger[4], Barbara White[4], Ingrid E. Lundberg[5]

[1]Department of Dermatology, University of Pennsylvania, Perelman School of Medicine, Philadelphia, Pennsylvania, [2]Department of Medicine, Division of Rheumatology, University of Pittsburgh, Pittsburgh, Pennsylvania, [3]Department of Dermatology, Stanford University Medical Center, Redwood City, California, [4]Corbus Pharmaceuticals, Inc., Norwood, [5]Division of Rheumatology, Karolinska Institutet, and Karolinska University Hospital, Stockholm, Sweden

Miscellaneous Rheumatic & Inflammatory Diseases Clinical Poster #3

Background

- There is significant unmet need for new treatments to achieve disease control in dermatomyositis (DM).
- Lenabasum is an oral, selective cannabinoid receptor type 2 (CB2) agonist that resolves inflammation and attenuates fibrotic processes.
- In a Phase 2 DM trial, lenabasum vs. placebo treatment was well tolerated and associated with improvement of (CDASI) skin activity score and other efficacy outcomes.[2]
- Efficacy and safety of lenabasum in DM is being tested in a global, randomized, double-blind, placebo-controlled Phase 3 trial.
- The primary endpoint is the Total Improvement Score (TIS) at 52 weeks.[3] This is the largest interventional, placebo-controlled trial to date in DM.

Objective

- Preliminary overall baseline demographics, disease characteristics, and immunomodulating treatments in 177 randomized subjects are presented as blinded data.

Methods

- At least 150 subjects will be randomized in this active trial with sites in North America, Europe, and Asia. Subjects are ≥ 18 years of age, with a diagnosis of DM by Bohan and Peter or ACR/EULAR criteria.[4,5] Stable doses of immunomodulating medications are allowed.
- Disease must be active by physician assessment with ≥ 1 of 3 criteria:
  - 1. Physician global activity (MDGA) ≥ 3 cm [10 cm visual analogue scale (VAS)] and Manual Muscle Testing (MMT)-8 score ≤ 142 points (max 150)
  - 2. Sum of MDGA, patient global activity (PtGA), and extramuscular global assessment (EMGA) VAS scores ≥ 10 cm (each 10 cm VAS scales)
  - 3. MDGA ≥ 3 cm and CDASI activity score > 14 (≥ moderate or severe skin activity).

Disclosures

- Investigators report grant support from Corbus Pharmaceuticals during the conduct of the study.
- ND, QD, BB, MT, and BW are employees of Corbus Pharmaceutics, Inc.
- This study was sponsored by Corbus Pharmaceuticals, Inc., Norwood, MA

Results

Figure 1. Trial Design

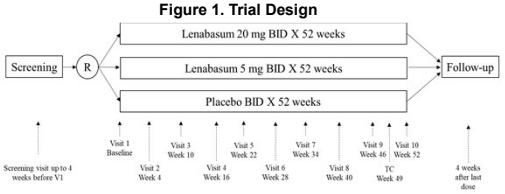

Figure 2. Trial Sites

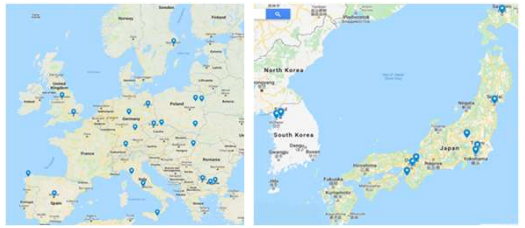

Table 1A. Preliminary Baseline Demographics and Disease Characteristics[a]

	n/177 (%) or mean ± SD
Demographics	
Female	144 (81.4%)
Age, years	52.0 ± 12.4
Body mass index, kg/m²	27.2 ± 6.8
Race	
White	129 (72.9%)
Asian	35 (19.8%)
Black or African American	3 (1.7%)
Other/unknown	1 (7.9%)
Hispanic or Latino	14 (7.9%)
Disease Characteristics	
Classic DM[b]	151 (85%)
Clinically Amyopathic DM[b]	21 (12%)
Disease duration (months)	78.1 ± 80.2
CDASI activity (0 – 100)	23.5 ± 12.9
CDASI > 14	137 (77.4%)
MMT-8 (0 – 150)	133.4 ± 15.5
MMT-8 in subjects with MMT– 8 < 143	126.5 ± 13
Subjects with MMT–8 < 143	119 (67.2%)
≥ 1 elevated muscle enzyme[c]	72 (40.7%)
HAQ-DI (0 – 3)	0.83 ± 0.71
HAQ pain VAS (0 – 100)	34.4 ± 28.6
EMGA VAS (0 –10 cm)	5.2 ± 1.8
PtGA VAS (0 – 10 cm)	5.1 ± 2.4
MDGA VAS (0 – 10 cm)	5.5 ± 1.7
Interstitial lung disease[d]	57 (32.2%)

[a] Data blinded to treatment assignment and immunomodulating treatments include immunosuppressive therapies, hydroxychloroquine, and IVIG
[b] Diagnosed by Bohan and Peter criteria and/or ACR/EULAR criteria
[c] % of enzyme elevations > upper limit of normal [LDH (22.5%); CK (15.5%); AST (12.4%); aldolase (10.4%); ALT (8.5%)].
[d] Interstitial lung disease is defined as history of fibrosis on CXR, history of interstitial lung disease on CT scan of the lungs, or forced vital capacity (FVC), % predicted < 80% at baseline.
[e] Maximum daily dose of prednisone allowed is 20 mg or equivalent dose

Table 1B. Preliminary Background Immunomodulating Treatments

	n/177 (%) or mean ± SD
Prednisone/prednisolone daily dose in those receiving corticosteroids, mg (min-max)[e]	8.7 (2.5-20)
> 10 mg corticosteroid daily	24 (13.6)
Any immunomodulator	149 (84.3)
≤ 1 year	33 (18.8)
> 1 year	117 (66.5)
≥ 2 immunomodulators	109 (61.6)
Corticosteroids	97 (54.8)
≤ 1 year	35 (19.9)
> 1 year	62 (35.2)
Methotrexate	43 (24.3)
≤ 1 year	13 (7.4)
> 1 year	32 (18.2)
Hydroxychloroquine	36 (20.3)
≤ 1 year	8 (4.6)
> 1 year	29 (16.5)
Intravenous immunoglobulin (IVIG)	27 (15.3)
≤ 1 year	8 (4.6)
> 1 year	20 (11.4)
Mycophenolate mofetil (MMF)	34 (19.2)
≤ 1 year	14 (8.0)
> 1 year	20 (11.4)
Azathioprine	21 (11.9)
Other[f]	43 (24.3)

[f] Other immunomodulators (e.g. rituximab, tacrolimus, cyclosporine)
Note: 177 randomized of which 176 received study drug

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Results

- As of August 5, 2020, 177 subjects were randomized (176 dosed) across 55 sites globally with a similar enrollment in the USA (n=90) vs. ex-USA (Europe, Canada, Japan, South Korea (n=86) (Figure 2).
- Preliminary data indicates that most subjects are female (81%), white (73%), and middle-aged, with a majority of classic DM (85%) (Table 1).
- Most (77%) have significant moderate/severe skin activity (CDASI > 14).
- Most (67%) have muscle weakness (MMT–8 < 143) with mean MMT-8 ± SD, 133.4 ± 15, and 41% have ≥ 1 elevated muscle enzyme test.
- Physician-reported outcomes include EMGA VAS score = 5.2 ± 1.8 and MDGA VAS score = 5.5 ± 1.7.
- Patient-reported outcomes include Health Assessment Questionnaire-Disability Index (HAQ-DI) score = 0.83 ± 0.71, pain score on HAQ-DI = 34 ± 29, and PtGA VAS score = 5.1 ± 2.4.
- Glucocorticoids were used in 55% of subjects, 84% were on any immunomodulating drug and 62% were on ≥ 2. Limited use of MMF or IVIG and most subjects were on any immunomodulator > 1 year.

Conclusions

- Baseline demographics of enrolled subjects are as expected (majority white, female, and middle-aged).
- These characteristics reflect the estimated proportion of classic to clinically amyopathic patients in the overall DM population (~7:1) and ~32% with ILD..
- Most subjects are concurrently receiving immunomodulatory drugs for > 1 year and have active, refractory disease with glucocorticoid use in about half of subjects. MMF or IVIG use was limited.

References

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5. N Engl J Med. 1975;292:344-7 and N Engl J Med. 1975;292:403-7.

Thank You

- The patients who are participating in this study
- Trial investigators and study staff at sites
- Members of the Steering Committee
- Members of the Data Monitoring Committee