TNX-102 SL* for the Treatment of Fibromyalgia: Role of Nonrestorative Sleep on Pain Centralization

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Introduction

- Nonrestorative sleep (NRS) is impaired sleep characterized by frequent awakenings, poor sleep efficiency, and a more profound day-time sleepiness than is followed by sleep at night, creating a vicious cycle.
- Sleep is perceived as restful, patients report substantial improvement in their daytime symptoms. When sleep is perceived as restful, patients report substantial improvement in their daytime symptoms.
- TNX-102 SL is an Investigational New Drug and has not been approved.

Baseline Characteristics

- PROMIS Sleep Disturbance Instrument
- Fibromyalgia Impact Questionnaire-Revised (FIQ-R)

BESTFIT Study Characteristics and Endpoint Measures

- Phase 1 comparative pharmacokinetic study supports the advantage of the proprietary CBP eutectic formulation that improve sleep quality may improve FM globally by a mechanism distinct from that of centrally acting analgesics.
- TNX-102 SL is an Investigational New Drug and has not been approved.

Methods

- BESTFIT = Bedtime Sublingual TNX-102 SL as Fibromyalgia Intervention Therapy
- 12-week randomized, double-blind, placebo-controlled study in patients diagnosed with Fibromyalgia by 2010 ACR criteria
- 205 participants in 11 centers in the United States
- Placebo (n=102)
- TNX-102 SL (n=103)

Entry Criteria

- Patients had a diagnosis of primary fibromyalgia as defined by the 2010 ACR Diagnostic Criteria for Fibromyalgia defined as:
  - ACR 11/08.Criterion B: FM pain in all 11 regions.
  - 11/08.Criterion C: Pain present at a similar level for at least 3 months.
  - Patients did not have a disorder that would have otherwise explained their pain.
  - c) Patients did not have a disorder that would have otherwise explained their pain.

Primary efficacy endpoint

- Change from baseline to the daily diary score during week 12
- 11-point 0-10 Numerical Rating Scale (NRS) assessed prior to bedtime pain intensity.
- Key secondary endpoints include:
  - Patient Global Improvement of Change (PGIC)
  - Fibromyalgia Impact Questionnaire Revised (FIQ-R)
  - Daily Sleep Diary
  - PROMIS Sleep Disturbance Instrument

Safety Evaluation

- Adverse events (AEs)
- Administration site reaction

Baseline Characteristics

- Age
- Gender
- Education
- Weight
- BMI
- Duration of FM
- Current Employment
- College level or higher education

Results

- Week 12 change from baseline (MMRM) for all demographics and subpopulations
- Week 12 LS Mean Change for all sleep secondary endpoints improved on TNX-102 SL
- Week 12 LS Mean Change by MMRM for all sleep secondary endpoints improved on TNX-102 SL

Conclusions

- TNX-102 SL demonstrated improvement in sleep quality, which in turn led to pain reduction (30% response).
- The improvement of sleep in the pathophysiology of FM supports the notion that nonrestorative sleep that improve sleep quality may improve FM quality by a mechanism distinct from that of centrally acting analgesics.

References

1. Toni Pharmaceuticals. TNX-102 SL is an Investigational New Drug and has not been approved for any indication.

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