A Multicenter RCT Of At-Home External Combined Occipital & Trigeminal Afferent Stimulation Therapy (Proliv Rx) For Major Depressive Disorder

AMERICAN PSYCHIATRIC ASSOCIATION

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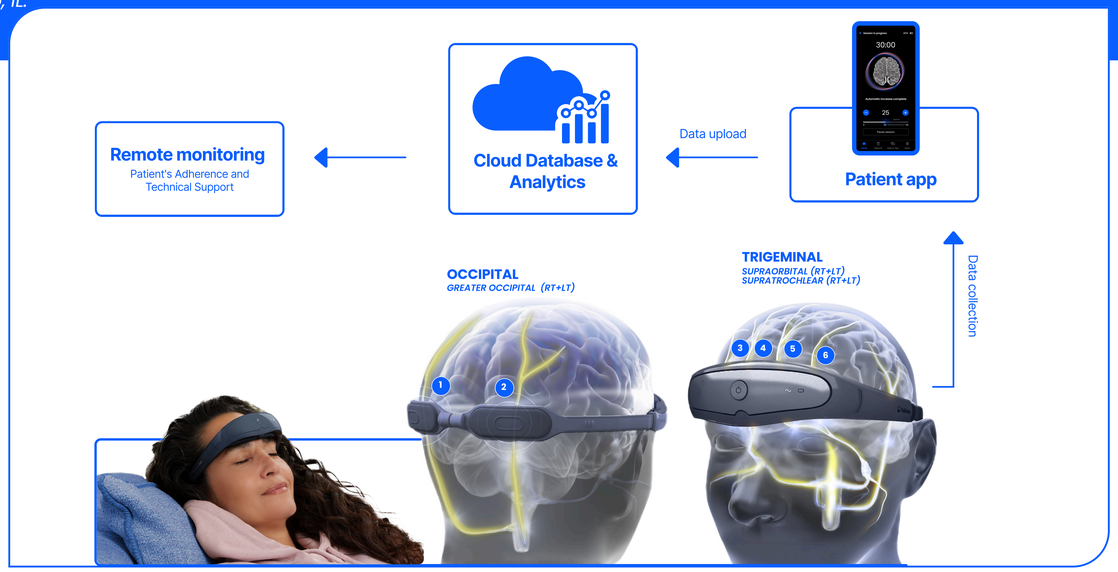
BACKGROUND

- Major Depressive Disorder (MDD) is a leading cause of disability worldwide and this MDD remains unresponsive to antidepressants in many patients.
- Access to non-pharmacological treatments is limited to in-clinic settings.
- Proliv™Rx is a novel, physician-supervised, in clinic or at home-use neuromodulation therapy that combines occipital and trigeminal afferent stimulation.
- This study evaluated the efficacy and safety of Proliv™Rx in an FDA-pivotal, multicenter, randomized controlled trial in patients who had failed to respond to antidepressant medications.



METHODS

Study Design
A randomized, double-blind, multicenter, parallel-group, sham-controlled trial.

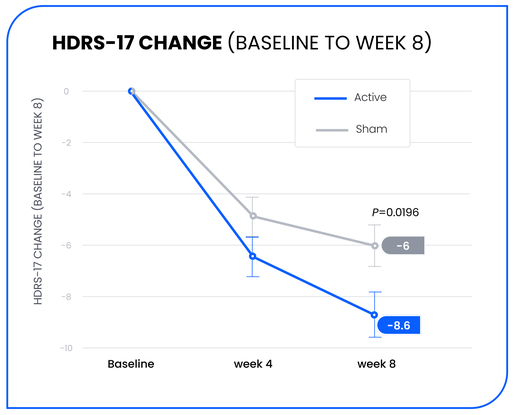
Participants
Adults with MDD, unresponsive to antidepressants, baseline HDRS-21 score ≥20 (N=124, mITT analysis N=97).

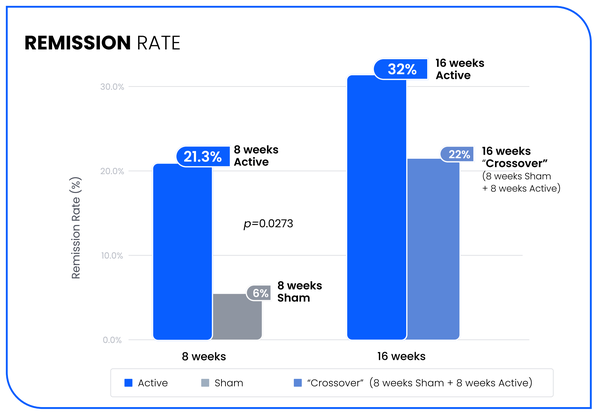
Intervention
Patients were randomized to 8 weeks of self-administered, at-home Proliv™Rx active or sham stimulation, followed by an additional 8-week open-label phase with active stimulation for both groups.

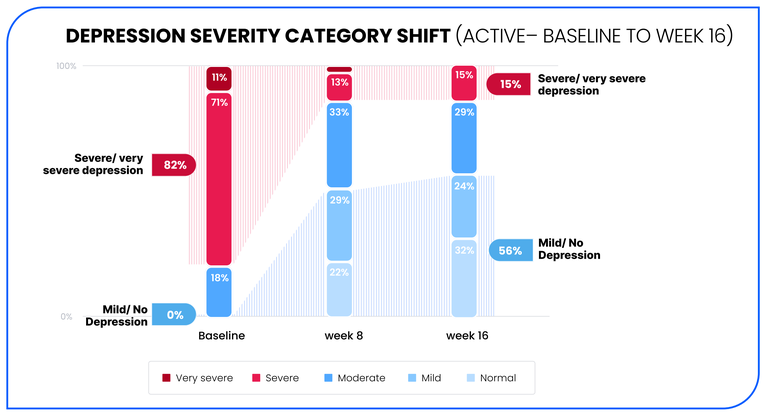
Outcome Measures
The primary outcome was a mean change in Hamilton Depression Rating Scale (HDRS-17).

Other outcome measures included remission rate, response rate, clinically substantial improvement rate, depression severity category shift, safety and treatment adherence.

Neurolief's technology for the treatment of Major Depressive Disorder has not yet been granted marketing authorization and is therefore considered investigational. Supported by funding from Neurolief.







RESULTS

HDRS-17 Score Reduction

- Week 8 – Active: 8.6 points | Sham: 6 points (p = 0.02)
- Week 16 – Active: 9.8 points | Crossover to Active (Initially Sham): 9.6 points

Remission Rate (HDRS-17≤7)

- Week 8 – Active: 21.3% | Sham: 6% (p = 0.02)
- Week 16 – Active: 32% | Crossover to Active (Initially Sham): 22%

Responder Rate (HDRS-17 reduction ≥ 50%)

- Week 8 – Active: 32% | Sham: 18% (p=0.11)
- Week 16 – Active: 49% | Crossover to Active (Initially Sham): 48%

Clinically Substantial Improvement Rate (HDRS-17 reduction ≥ 7 points)

- Week 8 – Active: 62% | Sham: 32% (p=0.003)
- Week 16 – Active: 71% | Crossover to Active (Initially Sham): 78%

Depression Severity Category Shift (Active - baseline to week 16)

- 81% were severe or very severe at baseline compared to only 15% severe at week 16.
- None were normal or mild at baseline compared to 56% at week 16.

Blinding: Approximately 90% of participants were unable to guess their treatment assignment.

Adherence: Over 96% of participants complied with the treatment regimen.

Safety: No serious unanticipated adverse events reported.

CONCLUSION

Proliv™Rx demonstrated significant clinical efficacy and a favorable safety profile in treating Major Depressive Disorder that has not responded to pharmacological therapy in patients.

This neuromodulation system provides a novel, home-based therapeutic option that expands the reach of care, enabling physicians to deliver supervised treatment for MDD beyond the clinic settings.