Glial attenuation with ibudilast in the treatment of medication overuse headache

SCIENCE

Abstracts

Key Take-Away:

Preclinical studies have reported that the ibudilast attenuates glial cells activation, which is responsible for both pain and drug addiction. The authors in this study have tried to explore the efficacy of ibudilast in the treatment of medication overuse headache but they were not able to produce significant results.

Medication overuse headache (MOH) is a condition bordering between a chronic pain condition and a substance dependence disorder.

ABSTRACT:
Background:

Medication overuse headache (MOH) is a condition bordering between a chronic pain condition and a substance dependence disorder.

Activation of immunocompetent glial cells in the central nervous system has been linked to both pathological pain and drug addiction/reward. Preclinically, ibudilast attenuates glial activation and is able to reduce neuropathic pain and markers of substance dependence. We therefore, hypothesized that ibudilast would reduce headache burden and opioid analgesic requirements in patients with opioid overuse headache. The aim of this study is to determine if treatment with ibudilast provides a greater reduction in headache index than placebo in MOH patients consuming opioids.

Expand section

Methods:

Participants with MOH using opioids were randomized via computer-generated code to ibudilast 40 mg or placebo twice daily for 8 weeks in a double-blind, parallel groups study.

Before randomization, participants completed a 4-week baseline headache diary. During treatment, headache diary data collection continued and participants attended 4 study visits during which quantitative sensory testing was performed. Blood samples for immune biomarker analyses were collected before and after treatment in a subgroup of participants.

Expand section

Results:

Thirty-four participants were randomized, 13 of 15 randomized to ibudilast and 17 of 19 randomized to placebo completed treatment.

Ibudilast was generally well-tolerated with mild, transient nausea reported as the most common adverse event (66.7% vs 10.5% in placebo group). Results are shown as mean (SD). At the end of treatment, no differences in the primary outcome average daily headache index (placebo 62 [44] vs ibudilast 77 [72] groups, difference -15, CI -65 to 35 h × numerical rating scale), or secondary outcomes headache frequency (placebo 23 [8.1] vs ibudilast 24.5 [6.2], difference -1.5, CI -7.7 to 4.8

days/month) and opioid intake (placebo 20.6 [43] vs ibudilast 19 [24.3], difference 1.6, CI -31.5 to 34.8 mg morphine equivalent) were observed between placebo and ibudilast groups.

Expand section
Conclusion:

Using the current dosing regimen, ibudilast does not improve headache or reduce opioid use in patients with MOH without mandated opioid withdrawal.

However, it would be of interest to determine in future trials if ibudilast is able to improve ease of withdrawal during a forced opioid down-titration when incorporated into an MOH detoxification program

Expand section
Headache. 2015 Sep 14
Therapeutic, Ibudilast, Medication overuse headache (MOH), Glia, Opioid, Double-Blind, Randomized, double-blind, parallel groups study, Efficacy, Safety