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Brief Report

Sublingual Low-Dose Lithium Ascorbate for Posttraumatic Stress Disorder

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Background

Posttraumatic stress disorder (PTSD) is a chronic and disabling condition affecting millions of adults worldwide. Despite available treatments, many patients continue to experience hyperarousal, sleep disruption, and emotional dysregulation. Novel adjunctive interventions are urgently needed.

Lithium occupies a central role in psychiatry as a mood stabilizer. Beyond this classical indication, lithium demonstrates neurobiological properties directly relevant to PTSD pathophysiology: it inhibits glycogen synthase kinase-3 (GSK-3), enhances brain-derived neurotrophic factor (BDNF) signaling, exerts anti-inflammatory effects, and supports mitochondrial function [1,2]. These mechanisms overlap with biological pathways implicated in PTSD, including impaired fear extinction, stress-related neuroinflammation, and limbic-prefrontal dysregulation [1,2].

However, conventional lithium carbonate is constrained by narrow therapeutic windows, nephrotoxicity risk, thyroid dysfunction, and mandatory serum monitoring—limitations especially problematic in PTSD populations where medication sensitivity and poor adherence are common.

Lithium ascorbate is an organic lithium salt currently available as an ultra-low-dose sublingual formulation. Preclinical studies have demonstrated antidepressant-like, anxiolytic, adaptogenic, and neuroprotective properties, with stress-protective effects observed in behavioral models [7-9].

Compared with standard oral ingestion, sublingual delivery may facilitate more rapid absorption, reduce gastrointestinal exposure, reduce first-pass variability, and permit lower effective dosing—potentially improving tolerability in medication-sensitive patients.

Rationale

Although lithium has not been widely studied in PTSD, early clinical observations in combat veterans described improvements in irritability, anger, insomnia, and hyperarousal with lithium carbonate, particularly among treatment-resistant patients [3,4].

Limited pilot data further supported the plausibility of lithium augmentation specifically for combat-related PTSD hyperarousal [5].

However, the toxicity burden and monitoring requirements of standard lithium therapy make it impractical for broad PTSD use [1,2].

Ultra-low-dose sublingual lithium ascorbate may represent a fundamentally different clinical paradigm. Hypothesis-generating work has suggested that lithium's effects on intracellular signaling, synaptic plasticity, and memory consolidation could theoretically influence pathological trauma encoding [6].

Preliminary clinical observations at one academic center suggested that doses of elemental lithium far below traditional psychiatric ranges improved emotional resilience, sleep quality, and stress tolerance in PTSD patients who had previously failed multiple interventions [8].

As an example, we present the case of a 60-year-old female with a lifelong history of Ehlers-Danlos Syndrome (EDS) and post-

traumatic stress disorder (PTSD), presenting with chronic pain, depression, anxiety, sleep disturbances, and a severely diminished quality of life. Following initiation of dietary supplementation with lithium ascorbate, the patient reported rapid, substantial improvements in overall well-being within days. Notably, she experienced positive shifts in mood, sleep quality, appetite, and physical tension—outcomes that had not been achieved with previous interventions.

To our knowledge, no randomized controlled trial has evaluated sublingual ultra-low-dose lithium ascorbate for PTSD. This absence is clinically important because low-dose lithium products are already being used in integrative and consumer health settings despite minimal controlled psychiatric data.

Significance and Conclusion

We propose that a randomized control study is warranted to assess the degree of benefit, safety, and efficacy. This study would be the first controlled evaluation of sublingual ultra-low-dose lithium ascorbate for PTSD. If successful, findings could support development of a novel, low-cost, low-toxicity adjunctive intervention targeting trauma-related dysregulation and impaired stress resilience [8].

Positive results would justify larger multicenter trials and provide urgently needed evidence for a treatment already accessible to patients in integrative health settings.

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