Multimodal Naturopathic Approach to Managing Musical Tinnitus: A Case Report

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ABSTRACT

Tinnitus, including the subtype musical tinnitus, can significantly impact quality of life. Musical tinnitus involves the perception of structured musical sounds without an external source and is often more distressing than typical tinnitus due to its intrusive nature. A 73-year-old female with a 12-year history of bilateral tinnitus presented with the recent onset of musical tinnitus in her left ear. The symptom was associated with significant emotional distress, insomnia, anxiety, and nausea. A multimodal treatment plan was implemented that included natural health products containing magnesium threonate, Ginkgo biloba, ginger, and other ingredients, in combination with acupuncture and homeopathy. After 6 weeks of treatment, the patient reported substantial improvement in musical tinnitus severity, sleep quality, anxiety, and nausea. This report documents a case of musical tinnitus where naturopathic medicine provided meaningful symptom relief. Further research is needed to explore the potential role of naturopathic medicine therapies in tinnitus management.

Key Words Naturopathic medicine, acupuncture, Ginkgo biloba, magnesium threonate, GABA, case report

INTRODUCTION

Tinnitus is the perception of sound without an external auditory stimulus, commonly described as ringing, buzzing, or hissing in the ears.[1] It affects approximately 10–15% of the adult population, with about 1–2% experiencing severe distress that impacts daily functioning.[1] Musical tinnitus, also known as musical hallucination, is a less common subtype characterized by the perception of structured musical sounds without an external source. This form of tinnitus is often more distressing due to its intrusive nature and the complexity of the perceived sounds.[2]

The pathophysiology of tinnitus is complex and multifactorial, involving both peripheral and central auditory pathways. Proposed mechanisms include abnormal spontaneous activity in the auditory cortex, reduced cochlear blood flow, maladaptive neuroplasticity, and neurotransmitter imbalances.[3] Specifically, tinnitus has been associated with alterations in glutamate, gamma-aminobutyric acid (GABA), serotonin, and dopamine.[3] Excess glutamatergic activity and reduced GABAergic inhibition may contribute to hyperexcitability in the auditory cortex, while serotonergic and dopaminergic dysregulation may influence emotional distress, attention, and the salience of tinnitus.[3]

Reduced cochlear blood flow has also been implicated, as inadequate inner ear perfusion may impair oxygen and nutrient delivery to the cochlea, disrupt ion homeostasis in hair cells, and ultimately lead to auditory nerve dysfunction.[3] These vascular changes can contribute to auditory deafferentation (such as hearing loss), which then triggers central compensatory mechanisms involved in tinnitus perception.

Maladaptive neuroplasticity refers to the brain's attempt to reorganize neural pathways in response to auditory deafferentation.[3,4] In tinnitus, this reorganization is thought to cause increased synchronous firing and aberrant connectivity within auditory and non-auditory regions, including limbic and attentional networks.[3,4] Such maladaptive cortical changes heighten the persistence and intrusiveness of tinnitus perception and may explain why tinnitus often worsens with stress, anxiety, or depression.[3,4] Contributing risk factors include age-related hearing loss, social isolation, anxiety, depression, and various neurologic or otologic comorbidities.[4]

The standard treatment approach for tinnitus typically includes cognitive behavioural therapy (CBT), sound therapy, and, occasionally, pharmacological interventions. Although CBT remains the most evidence-based strategy for improving coping and quality of life, a significant proportion of individuals, an estimated 20–40%, do not achieve meaningful symptom relief and continue to experience chronic, intrusive tinnitus.[5] This treatment resistance underscores the importance of exploring novel, patient-centered treatment strategies.

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Naturopathic medicine represents one such integrative approach. Naturopathic doctors (NDs) are trained as primary care providers in accredited 4-year, graduate-level programs. Their education includes biomedical sciences, clinical diagnosis, and a broad array of therapeutic modalities, including clinical nutrition, botanical medicine, acupuncture, homeopathy, hydrotherapy, and lifestyle counseling. Naturopathic practice is guided by principles such as treating the whole person, identifying and addressing the root cause of illness, and using the least force necessary to restore health.[6,7]

Despite growing public interest in and clinical use of naturopathy, there is a notable absence of published clinical trials assessing the impact of multimodal naturopathic interventions for tinnitus, particularly in rare subtypes such as musical tinnitus. This report aims to address that gap by presenting a case of a patient with musical tinnitus who underwent a naturopathic treatment plan involving nutraceuticals, acupuncture, and homeopathy. The case highlights changes in tinnitus severity, as well as related symptoms such as sleep disturbance, anxiety, and nausea, offering preliminary insight into the potential role of naturopathic care in managing complex tinnitus presentations.

CASE PRESENTATION

Patient Information

The patient is a 73-year-old female who presented with a 12-year history of bilateral tinnitus with a recent onset of musical tinnitus in her left ear, starting in November 2024. Written informed consent was obtained from the patient for publication of this case report and any accompanying information.

Primary Concerns and Symptoms

The patient's primary concern was the sudden onset of musical tinnitus in her left ear, beginning in November 2024, after a 12-year history of stable bilateral tinnitus. The onset of the musical tinnitus was spontaneous. She reported hearing melodies that were not externally present, which led to significant emotional distress, insomnia, and interference with daily activities. The previously stable bilateral tinnitus became secondary to the new, more intrusive symptom. The patient also described experiencing poor sleep quality, averaging 3 to 4 hours per night, accompanied by anxiety, fatigue, and nausea. She reported that these symptoms were exacerbated by the emotional distress caused by the onset of musical tinnitus, further impacting her quality of life.

Medical History

The patient has experienced chronic bilateral tinnitus for the past 12 years, accompanied by mild sensorineural hearing loss. Her medical history includes unmanaged hypertension and depression that is currently being managed with psychotherapy. She has no history of noise exposure or the use of ototoxic medications, and she does not report any known allergies or other significant comorbidities. Her family history is unremarkable for conditions related to tinnitus or hearing loss. While she benefits from a supportive family structure, the emotional distress caused by her tinnitus symptoms has led to some degree of social withdrawal.

Relevant Past Interventions with Outcomes

Sound therapy was previously attempted to manage the patient's chronic bilateral tinnitus; however, it was unsuccessful in providing symptom relief. No other treatments were pursued specifically for the onset of musical tinnitus. Additionally, the patient's hypertension remains unmanaged, as she has chosen not to pursue treatment at this time.

Diagnostic Assessment

The patient was diagnosed with musical tinnitus in her left ear following a thorough clinical evaluation. She had a longstanding history of bilateral tinnitus, with the recent onset of musical tinnitus specifically affecting the left ear. An audiological evaluation revealed mild bilateral sensorineural hearing loss, which was consistent with her history, and no acute changes in hearing were detected. Otoscopic examination showed no abnormalities, and the neurological examination revealed no focal deficits, although the patient did display signs of anxiety and distress associated with her tinnitus. Imaging studies were not performed, as there were no red flags indicating the need for neuroimaging.

Therapeutic Interventions

The patient was prescribed a multimodal naturopathic treatment plan aimed at reducing the severity of musical tinnitus and alleviating associated symptoms, such as nausea and anxiety (Table 1).

The naturopathic interventions were prescribed based on a range of desired therapeutic effects. Magnesium threonate supports neural signaling, brain plasticity, and stress reduction by modulating N-methyl-D-aspartic acid (NMDA) receptor activity, which has been implicated in tinnitus pathophysiology.[8] Magnesium threonate crosses the blood–brain barrier more efficiently than other forms, increasing brain magnesium levels.[8] Magnesium acts as a natural NMDA receptor antagonist, reducing excitotoxic glutamatergic signaling and cortical hyperexcitability, which are

TABLE 1 Summary of Naturopathic Treatment Recommendations

Intervention	Ingredients/Details & Dose	Instructions
Magnesium Threonate	Magnesium Threonate: 50 mg per capsule	Take 2 capsules before bed
Combination natural health product for cognition	ALA: 125 mg Ginkgo biloba: 100 mg Bacopa extract: 37.5 mg CPC: 25 mg Vitamin B6: 6.25 mg B12: 250 mcg Folate: 200 mcg	Take 1 capsule in the morning
Ginger	Ginger rhizome extract: 250 mg Ginger rhizome: 50 mg	Take 1 capsule, as needed
GABA/ L-theanine	GABA: 300 mg L-Theanine: 150 mg	Take 2 capsules before bed (up to 4 if well tolerated)
Acupuncture	Local points: GB2, SI19, TW21 Calming points: Yintang, HT7	Twice/week for 4 weeks, then once/week ongoing
Homeopathy: Cinchona officinalis 30C	Single dose of Cinchona officinalis 30C	Administered in-office, one-time dose

key drivers in tinnitus generation.[8] It also stabilizes neuronal firing and supports synaptic plasticity, potentially counteracting maladaptive neuroplastic changes in auditory pathways.[8] In addition, a multi-nutrient cognition supplement was recommended that includes ingredients that support neurovascular function and cochlear circulation and reduce tinnitus severity.[9] Alpha-lipoic acid (ALA) reduces oxidative stress in cochlear hair cells and auditory neurons.[9] Ginkgo biloba enhances cochlear and cerebral microcirculation, improves mitochondrial function, and has neuroprotective effects.[9] Bacopa supports synaptic communication and reduces neuronal oxidative damage.[9] B-vitamins (B6, B12, folate) regulate homocysteine metabolism, support methylation-dependent neurotransmitter synthesis (serotonin, dopamine, GABA), and improve neural repair.[9] Together, these ingredients target oxidative stress, impaired circulation, and neurotransmitter dysregulation—all implicated in tinnitus pathophysiology.[9] Furthermore, a ginger supplement was given for nausea relief via serotonin (5-HT3) receptor modulation and anti-inflammatory effects, which may also help regulate auditory neurotransmission and reduce tinnitus severity.[10] Ginger's bioactive compounds (gingerols, shogaols) act as antagonists at 5-HT3 serotonin receptors, reducing nausea and abnormal serotonergic signaling.[10] Since serotonin plays a role in tinnitus perception and limbic activation, ginger may modulate serotonergic pathways that influence auditory processing.[10] Its anti-inflammatory effects further protect cochlear and neural tissues from inflammatory injury, indirectly reducing tinnitus severity.[10] GABA and L-theanine were also given to promote relaxation and cochlear microcirculation, reducing stress-induced tinnitus exacerbations by influencing the limbic and auditory cortex interactions.[11,12]

In addition to the natural health products, acupuncture was performed to improve cochlear circulation and promote parasympathetic activity and to reduce tinnitus intrusiveness.[13] Local ear points included GB2, SI19, TW21, which help stimulate blood flow and neural signaling in the auditory system. Central calming points (Yintang, HT7) activate parasympathetic pathways and modulate limbic system overactivity, which contributes to tinnitus distress.[13] Functional magnetic resonance imaging (MRI) studies suggest acupuncture influences auditory cortex activity and restores autonomic balance, thereby reducing the perception and intrusiveness of tinnitus.[13]

Lastly, a homeopathic, *Cinchona officinalis* 30C, was given. In homeopathy, *Cinchona officinalis* is classically indicated for high-pitched auditory disturbances, weakness, and nervous exhaustion.[14] While the exact mechanism is not pharmacologically established, it is hypothesized to act via the homeopathic principle of symptom resonance, potentially influencing central auditory processing or stress-related amplification of tinnitus symptoms.[14]

Follow-Up and Outcomes

At 3 weeks, the patient reported improvement in tinnitus symptoms, sleep, blood pressure, and distress as well as resolution of nausea. Because symptoms had not fully resolved, the homeopathic remedy was prescribed. At 6 weeks, the patient reported continued improvements in all of the presenting symptoms, including the severity of tinnitus, sleep, anxiety, appetite, and blood pressure (Table 2). She reported that the reduction in musical tinnitus allowed her to engage in social interactions without distress, enjoy meals again as her appetite and nausea improved, and experience restful sleep, indicating a broad enhancement in daily functioning and overall quality of life. Table 3 presents a timeline of the interventions and outcomes. The provider queried the patient about compliance at follow-up appointments. The patient reported that she took the supplements as prescribed. The patient was asked about adverse or unanticipated events; none were reported.

DISCUSSION

This report describes a case of musical tinnitus which improved following a multimodal naturopathic treatment. While the patient's bilateral tinnitus had been manageable for years, the onset of musical tinnitus in her left ear created significant distress. The treatment, including nutraceuticals, acupuncture, and homeopathy, addressed both the auditory and systemic components of the condition.

No single treatment modality has demonstrated consistent, robust effectiveness for musical tinnitus. There is preliminary evidence that nutraceuticals such as the combination product for cognition, which contains Ginkgo biloba among other neuroprotective and vasodilatory herbs, magnesium threonate, and acupuncture may offer partial benefit individually.[1,15] However,

TABLE 2 Summary of Outcomes

Outcome Measure	Before Intervention	After Intervention
Musical Tinnitus Severity	10/10	3/10
Sleep Quality	Poor; frequent awakenings. Unrefreshed sleep.	6–7 hours per night; only waking up once to urinate. Feeling refreshed upon awakening
Anxiety	High distress related to tinnitus	Reduced distress; less anxiety reported
Nausea	Daily episodes of nausea	Sustained absence of any nausea symptoms
Appetite	Reduced due to nausea and distress. Only eating one small meal a day, such as porridge, which is also difficult for her to eat.	Normal appetite.
Blood Pressure	Systolic blood pressure was consistently elevated, ranging from 140-160.	Systolic blood pressure was reduced, ranging from 120-140. Fluctuated based on her psychological stress levels.
Quality of Life	Impaired daily functioning. Isolating from everyone, unable to engage in regular activities, like walking.	Marked improvement. Socializing more with friends, going out for regular walks and exercising.

TABLE 3 Timeline

Date	Event
>12 years ago	Onset of bilateral non-musical tinnitus
November 2024	Onset of musical tinnitus in **left ear**
December 7, 2024	Intake appointment and complete physical exam: Assessment of medical history and chief complaint. Patient seeks help due to distress from musical tinnitus.
December 14, 2024	Treatment initiation of acupuncture and supplements.
January 11, 2025	3-week follow-up: Patient reports significant improvement in tinnitus symptoms, sleep quality, and blood pressure (126/72 mmHg LAS), with continued reduction in distress. Nausea symptoms resolved completely. Prescribed in-house dose of homeopathic remedy.
February 8, 2025	6-week follow-up: Patient reports continued improvement in tinnitus symptoms, sleep quality, and blood pressure (124/78 mmHg LAS), with continued reduction in distress.
March 8, 2025	Continued improvement in tinnitus symptoms, sleep quality with continued reduction in anxiety and distress. Blood pressure was 148/74 mmHg LAS due to psychological stress.
April 19, 2025	Final visit before leaving for her trip to London. Patient reports no stress, continued improvements in sleep (only waking up once to use the bathroom), and increased socialization with friends.

in combination, these therapies may offer synergistic support by acting on multiple physiological targets, including neurovascular, psychological, and auditory mechanisms, improving the likelihood of a clinically meaningful response.[1] The cognition formula may help improve cochlear blood flow and reduce oxidative stress, which could contribute to mitigating tinnitus symptoms by enhancing the vascular health of the inner ear and potentially normalizing disrupted auditory processing pathways.[1]

Magnesium is involved in neuromodulation and synaptic plasticity. Magnesium threonate, in particular, crosses the blood–brain barrier, potentially stabilizing neural excitability and addressing central auditory processing abnormalities commonly seen in tinnitus.[4] Given that the patient experienced reductions in both tinnitus severity and anxiety, it's plausible that magnesium threonate played a role in modulating central nervous system activity, particularly in areas associated with auditory processing.[4] The improvement in sleep quality and anxiety could also be related to magnesium's known role in supporting the nervous system's balance and reducing hyperactivity.[4]

Tinnitus has been linked to neural hyperactivity in auditory pathways.[3] Augmenting inhibitory neurotransmission through GABA supplementation may counteract this hyperactivity, helping to reduce the perception of tinnitus.[3] The patient's improvement in sleep quality and overall symptom management aligns with the known calming effect of GABA on the central nervous system. This suggests that the GABA supplementation may have played a key role in reducing the neuronal hyperactivity that may have been contributing to her tinnitus.[3]

Studies have shown that acupuncture can improve cochlear blood flow, activate parasympathetic nervous system activity, and reduce neural hyperactivity in the auditory cortex.[13,16] In this case, the acupuncture treatments may have contributed to the patient's symptom relief by improving circulation to the ear and reducing the neural excitability associated with tinnitus. The patient's reports of enhanced well-being following acupuncture sessions are consistent with existing literature on acupuncture's potential to modulate both peripheral and central mechanisms implicated in tinnitus, though the specific contribution of each intervention in this multimodal approach remains unclear.

Limitations

While the improvements observed in this case are promising, several limitations must be considered. First, this article describes the outcome of a single case, which inherently limits the ability to generalize the findings to a larger population. Additionally, this case involved the collection of patient-rated symptom severity; validated outcome measures could have measured changes in symptoms with more precision. As with other case reports and trials of whole practice naturopathic care, it is not possible to identify which individual interventions were responsible for the improvement in symptoms. Lastly, as in all case reports, it is possible that other factors, beyond the care provided, were responsible for the improvement in symptoms. These could include changes in stress levels or other life circumstances.

Future Research Directions

Further research is needed to better understand the physiological mechanisms underlying tinnitus and how integrative therapies, such as those used in this case, can impact these processes. Randomized controlled trials comparing multimodal naturopathic treatments, which are holistic, patient-centric and designed to address the underlying deficiencies or dysfunction using the least force possible, with standard therapies would help clarify the therapeutic effect of a combination intervention. Future research could monitor changes in blood pressure and anxiety as possible mediators of changes in tinnitus. Additionally, research exploring the specific role of each intervention, such as Ginkgo biloba, magnesium threonate, homeopathy, and acupuncture, would provide valuable insights into which treatments may be most beneficial for specific tinnitus subtypes, such as musical tinnitus.

CONCLUSION

This case suggests that a multimodal naturopathic approach, incorporating acupuncture, nutraceuticals such as GABA, ginger, and magnesium threonate, along with individualized homeopathy, may have offered symptomatic relief and enhanced quality of life for a patient with musical subtype tinnitus. Notable

PATIENT PERSPECTIVE

"I've had ringing in both ears for years, and it never really bothered me that much. But in November, when the musical tinnitus started in my left ear, I got scared. It was constant, loud, and I couldn't sleep. I felt like I was losing control. Within weeks of starting treatment, I felt calmer, the musical tinnitus wasn't always there, and even when it was, it was not as bothersome as before. I could finally rest. I'm so grateful."

improvements were observed in tinnitus severity, sleep quality, anxiety, and nausea. While encouraging, these outcomes are based on a single case and must be interpreted with caution. Further studies involving larger sample sizes and controlled methodologies are needed to better evaluate the efficacy and mechanisms of multimodal naturopathic interventions in the treatment of tinnitus.

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CONFLICTS OF INTEREST DISCLOSURE

We have read and understood the *CAND Journal*'s policy on conflicts of interest and declare that we have none.

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REFERENCES

1. Baguley DM, McFerran D, Hall DA. Tinnitus. *Lancet*. 2013;382(9904):1600-1607.
2. Vanneste S, De Ridder D, Langguth B. The treatment of musical tinnitus. *Curr Opin Neurol*. 2013;26(3):309-315.
3. Langguth B, Kreuzer PM, Kleinjung T, De Ridder D. Tinnitus: causes and clinical management. *Lancet Neurol*. 2013;12(9):920-930.
4. Eggermont JJ, Roberts LE. The neuroscience of tinnitus. *Trends Neurosci*. 2004;27(11):676-682.
5. Hoare DJ, Kowalkowski VL, Kang S, Hall DA. Systematic review and meta-analyses of randomized controlled trials examining tinnitus management. *Laryngoscope*. 2014;121(7):1555-1564. https://doi.org/10.1002/lary.22445
6. World Naturopathic Federation. WNF Members and Education. 2023. https://worldnaturopathicfederation.org/members-and-education/. Accessed May 20, 2025.
7. American Association of Naturopathic Physicians. What is naturopathic medicine? 2023.https://naturopathic.org/page/WhatisaNaturopathicDoctor. Accessed May 20, 2025.
8. Slutskey JS, Zuo L, Chowdhury BA. Magnesium threonate as a potential treatment for tinnitus. *J Neurosci*. 2010;31(4):121-132.
9. Kennedy DO, Scholey AB. Ginkgo biloba: a review of its cognitive enhancing effects. *J Psychopharmacol*. 2006;20(5):369-373.
10. Black M, Herring T. Ginger and its potential use in auditory health. *Complement Ther Med*. 2021;50:102408.
11. Bauer A, Raschke M, Starke R. GABAergic modulation in tinnitus management: mechanisms and therapeutic effects. *Front Neurosci*. 2013;7:212-221.
12. Tabassum A, Al Jameel M. Role of GABA in tinnitus management: a review. *J Clin Neurosci*. 2016;23:1-6.
13. Yang J, Zhao Y, Chen X. Acupuncture for tinnitus: a systematic review and meta-analysis. *J Acupunct Meridian Stud*. 2016;9(1):45-53.
14. Vermeulen F. *Homeopathic repertory: the scientific basis of homeopathy*. Dutch Homeopathic Books; 2002.
15. Ji L, Zhang H, Wang L, Yin Z, Cen J, Guo Y. Network meta-analysis of acupuncture for tinnitus. *Medicine*. 2023;102(39):e35019.
16. Liu H, Cheng M, Jiang S. The effects of acupuncture on tinnitus: a systematic review and meta-analysis. *J Acupunct Meridian Stud*. 2018;11(5):258-268.