

Acupuncture as a Supportive Treatment for Anxiety in Schizoaffective Disorder: A Case Report

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Abstract: Generalized anxiety disorder (GAD) is a chronic condition characterized by excessive, difficult-to-control worry accompanied by somatic hyperarousal that can impair daily functioning. Comorbidity with mood-psychotic spectrum disorders, such as schizoaffective disorder, often increases symptom burden, complicates pharmacologic management, and raises the risk of relapse. These challenges have led to growing interest in adjunctive nonpharmacological approaches for managing residual anxiety, including acupuncture, which is hypothesized to influence glutamatergic signaling and autonomic regulation. We report a 38-year-old man with schizoaffective disorder, depressive subtype, and comorbid GAD who underwent 12 sessions of adjunctive acupuncture. The protocol combined scalp acupuncture with auricular laser acupuncture, targeting anxiety as the primary therapeutic focus. Post-treatment assessments demonstrated a clinically meaningful reduction in anxiety severity on the Hamilton Anxiety Rating Scale (HAM-A). Improvements were also observed in depressive symptoms (Hamilton Depression Rating Scale, HAM-D) and sleep quality (Pittsburgh Sleep Quality Index, PSQI), with no reported adverse events. This case suggests acupuncture may be a feasible complementary intervention for GAD, warranting further controlled studies.

1 INTRODUCTION

Schizoaffective disorder is a complex psychiatric condition characterized by the co-occurrence of psychotic symptoms and mood episodes. This phenotypic overlap complicates diagnostic differentiation from schizophrenia and primary mood disorders (e.g., major depressive disorder, bipolar disorder). Suboptimal medication adherence further increases the risk of relapse, functional impairment, and adverse social outcomes (Spranger Forte et al., 2023).

Generalized anxiety disorder (GAD) is a chronic condition characterized by excessive, persistent worry and somatic hyperarousal. It frequently co-occurs with other psychiatric disorders; more than 60% of affected individuals meet criteria for comorbid conditions such as depression or substance use disorders (Kessler et al., 2007).

Comprehensive management of schizoaffective disorder typically integrates pharmacologic and psychotherapeutic interventions. In recent years, acupuncture has increasingly been investigated as a complementary therapeutic modality, with emerging evidence that it can modulate central nervous system activity and influence neurotransmitters such as dopamine, serotonin, and norepinephrine (Noort et al., 2018). Moreover, studies suggest acupuncture may help normalize glutamatergic dysregulation, a neurochemical disturbance implicated in the pathophysiology of multiple neuropsychiatric disorders (Tu et al., 2019).

This case report describes the adjunctive use of Zhu's scalp acupuncture and auricular low-level laser acupuncture in a patient with schizoaffective disorder presenting with prominent anxiety and sleep disturbance.

2 LITERATURE REVIEW

2.1 Schizoaffective Disorder

Schizoaffective disorder involves concurrent psychotic and mood symptoms. The lifetime prevalence is approximately 0.3%, with higher rates among women (Nurmiati Amir, 2021; Wy & Saadabadi, 2022). Neurophysiological differences from schizophrenia have been demonstrated,

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including preserved P300 amplitudes, suggesting distinct neural mechanisms (MacDonald & Demro, 2023).

Diagnosis follows DSM-IV-TR and ICD-10 criteria, requiring at least two weeks of psychotic symptoms without prominent mood features, along with affective episodes occupying a substantial portion of illness duration (Maslim, 2019).

Management is multimodal, combining antipsychotics, mood stabilizers, psychotherapy, and supportive interventions.

2.2 Generalized Anxiety Disorder

Generalized anxiety disorder (GAD) is characterized by excessive, difficult-to-control worry persisting for at least six months (Baik & Newman, 2023). It affects up to 4% of the global population, making it one of the most prevalent mental disorders (WHO, 2023). Neurobiologically, GAD is associated with amygdala hyperactivity and dysregulation of serotonergic and noradrenergic pathways (Chand & Marwaha, 2025).

Pharmacologic options include benzodiazepines, selective serotonin reuptake inhibitors (SSRIs), and buspirone, while non-pharmacologic approaches—such as cognitive-behavioral therapy (CBT), supportive therapy, and insight-oriented psychotherapy—are essential components of care (Lukman, 2017). GAD often follows a chronic course and may progress to panic or depressive disorders.

2.3 Therapy Evaluation Scales

The Hamilton Anxiety Rating Scale (HAM-A) (Hamilton, 1959) assesses 14 anxiety-related symptoms; a score ≥ 25 indicates moderate to severe anxiety (Konstantakopoulos et al., 2013). The Hamilton Depression Rating Scale (HAM-D) (Hamilton, 1960) evaluates depressive severity, and the Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989) quantifies sleep quality, with scores >5 indicating poor sleep. Collectively, these standardized instruments are widely used and demonstrate acceptable reliability for evaluating psychiatric interventions (Kinman, 2025).

2.4 Microsystem Acupuncture

Microsystem acupuncture targets localized body regions that “map” to systemic physiological functions, a framework often described as holography (Y. Wang, 2009). Zhu’s scalp acupuncture (ZSA), developed by Ming-Qing Zhu, divides the scalp into functional zones corresponding to cortical regions. Stimulation of key sites such as GV20, GV23, and GV24 has been reported to modulate prefrontal–limbic circuits

implicated in emotion regulation and cognitive processing (X. X. Wang & Wang, 2023; M. Zhu, 1992; M. Q. Zhu & Siu, 2007)

Auricular acupuncture, grounded in Paul Nogier’s somatotopic ear map, posits that external ear stimulation can influence autonomic function via vagal afferents (Nogier, 2009). Laser acupuncture applies low-level laser therapy within wavelengths of 600–1100 nm to induce photobiomodulation, thereby enhancing adenosine triphosphate (ATP) synthesis and supporting tissue homeostasis (Bruska et al., 2020; Kreisel & Weber, 2012). The application of the Nogier frequency “G” (146 Hz / 18688 Hz) is specifically aimed at modulating cortical activity, further supporting its therapeutic potential in neuropsychiatric disorders.

2.5 Acupuncture Research and Mechanisms

Acupuncture has been associated with improved clinical outcomes in schizophrenia and anxiety, plausibly via modulation of neurotransmission and promotion of neuroplasticity. When used adjunctively with standard pharmacotherapy, acupuncture appears to enhance treatment efficacy and reduce adverse effects in schizophrenia (Huang et al., 2023). In anxiety disorders, both manual acupuncture and electroacupuncture have been linked to clinically meaningful symptom reductions and attenuation of cortisol levels (Amorim et al., 2022; Sabbagh Gol et al., 2021), suggesting beneficial neurobiological effects across psychiatric conditions through influences on central and peripheral regulatory systems.

Mechanistically, proposed pathways include regulation of dopaminergic and serotonergic signaling, restoration of hypothalamic–pituitary–adrenal (HPA) axis balance, improvement in sleep quality, and modulation of limbic–prefrontal network activity (Bosch et al., 2015; Hui et al., 2010; Noort et al., 2018).

3 CASE PRESENTATION

3.1 History

A 38-year-old man with schizoaffective disorder, depressive type, presented with daily anxiety and chest tightness after discontinuing psychiatric medications due to erectile dysfunction. He reported intrusive worries, poor sleep, and irritability.

Past history: Polysubstance use (heroin, tramadol, ecstasy), abstinent since 2016; currently vaping and self-medicating with dimenhydrinate for sleep.

3.2 Clinical findings

On examination, the patient appeared mildly anxious but remained cooperative and fully oriented to time, place, and person. He was calm during the interview and showed no signs of psychosis.

General Physical Examination: The patient was well-nourished, with a BMI of 32.5 kg/m², consistent with obesity class II. Vital signs were stable: blood pressure 138/90 mmHg, heart rate 90 beats per minute, respiratory rate 18 breaths per minute, and temperature 36.2°C. There was no evidence of tremor, diaphoresis, cyanosis, or skin lesions suggestive of substance use.

Systemic examination: Cardiorespiratory, abdominal, and neurologic examinations were within normal limits. Cranial nerves were intact; muscle strength and tone were normal; no focal deficits or cerebellar signs were detected. He endorsed difficulty achieving and maintaining an erection; genitourinary examination was unremarkable.

Mental Status Examination: The patient was neatly dressed and well-groomed, maintaining good eye contact and appropriate social behavior. His speech was normal in rate and tone. Mood was described as anxious, with a congruent and mildly restricted affect. Thought processes were logical and goal-directed, with no evidence of delusion or hallucination. He expressed excessive worry about his health and sexual function. Orientation, attention, and memory were intact. Insight was fair, and judgment was adequate for daily functioning.

Psychometric Assessment (Baseline): At baseline, psychometric evaluations indicated significant emotional distress. The patient scored 30 on the Hamilton Anxiety Rating Scale (HAM-A), corresponding to *severe anxiety*. His Hamilton Depression Rating Scale (HAM-D) score was 15, consistent with *moderate depressive symptoms*. In addition, a Pittsburgh Sleep Quality Index (PSQI) score of 13 reflected *poor sleep quality*, characterized by prolonged sleep onset and frequent nocturnal awakenings.

Autonomic Function Evaluation: Heart Rate Variability (HRV) analysis indicated low-to-normal variability with sympathetic predominance, consistent with autonomic imbalance often seen in chronic anxiety states.

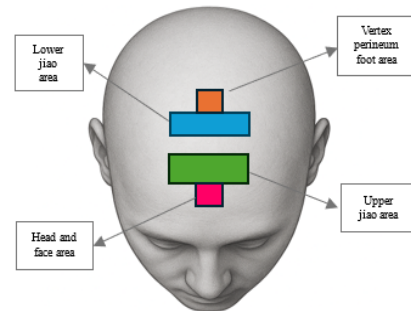


Figure 2. Zhu's scalp acupuncture areas used in this case: Head and face, Upper jiao, Lower jiao, and Vertex-perineum-foot area.

Taken together, these findings supported a diagnosis of schizoaffective disorder, depressive type (in remission), accompanied by generalized anxiety disorder and psychophysiological insomnia.

3.3 Therapeutic Intervention

The patient underwent a total of 12 acupuncture sessions over six weeks, administered twice weekly. Each session lasted approximately 45 minutes and was performed by a medical doctor specialized in acupuncture field.

Zhu's Scalp Acupuncture (ZSA) was applied to the head and face, upper jiao, lower jiao, and vertex-perineum-foot zones. Sterile filiform needles (0.25 × 25 mm) were inserted at a 30° angle to a depth of approximately 0.5 cun and retained for 45 minutes per session, with periodic manual stimulation.

In addition, auricular laser acupuncture was performed at the Shenmen (MA-TF1), Point Zero (MA-HX1), Sympathetic (MA-HX2), and Master Cerebral (MA-LO1) points bilaterally. A RJ® LaserPen emitting 785 nm wavelength at 50 mW power and Nogier G frequency (146 Hz / 18688 Hz) was used, with a dose of 0.5 J per point and an exposure time of 20 seconds each.

Adjunctive recommendations included mindfulness-based relaxation exercises and sleep hygiene education to support emotional regulation and improve sleep quality.

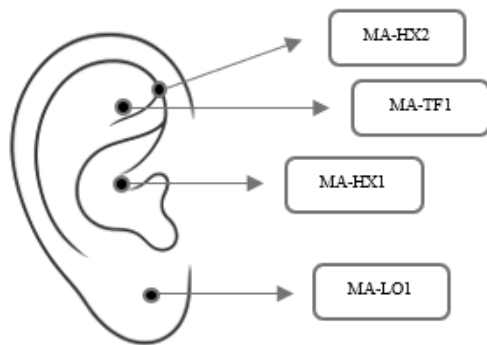


Figure 1. Auricular acupuncture points used in this case: Shenmen (MA-TF1), Point Zero (MA-HX1), Sympathetic (MA-HX2), and Master Cerebral (MA-LO1). Points were applied bilaterally.

3.4 Outcomes

After 12 sessions, the patient demonstrated clinically meaningful improvement across clinician-rated and patient-reported measures. The Hamilton Anxiety Rating Scale (HAM-A) decreased from 30 to 23, reflecting a shift from severe to moderate anxiety. The Hamilton Depression Rating Scale (HAM-D) improved from 15 to 10, indicating a change from moderate to mild depressive symptoms. The Pittsburgh Sleep Quality Index (PSQI) improved from 13 to 8, suggesting better sleep quality and shorter sleep latency; however, the score remained >5, consistent with residual sleep disturbance.

Heart rate variability (HRV) indices indicated movement toward more balanced autonomic regulation, with reduction in sympathetic predominance. Subjectively, the patient reported feeling calmer, more focused, and less physically tense, with fewer nocturnal awakenings and improved overall restfulness.

No adverse effects or complications were observed throughout the course of acupuncture treatment.

4 DISCUSSION

Anxiety frequently co-occurs with schizophrenia-spectrum disorders, exacerbating

symptom burden and impairing functioning (Temmingh & Stein, 2015). Schizoaffective disorder presents a particular challenge due to overlapping psychotic and affective symptoms.

In this case, acupuncture was chosen due to its neuroregulatory properties and patient preference for non-pharmacological therapy. Zhu's scalp acupuncture targets cortical regions—particularly the superior frontal gyrus and limbic system—implicated in emotional regulation (Robinson, 2016; M. Zhu, 1992) Auricular laser acupuncture, through vagal stimulation, likely enhanced parasympathetic tone, consistent with improved HRV findings (Bruska et al., 2020; Kreisel & Weber, 2012; Nogier, 2009).

Mechanistically, combined scalp and auricular stimulation may restore neurotransmitter homeostasis, regulate dopaminergic overactivity, and improve sleep and mood (Bosch et al., 2015; Hui et al., 2010; Noort et al., 2018). The absence of adverse effects reinforces acupuncture's safety profile.

Limitations include single-case design, lack of follow-up psychiatric evaluation, and reliance on subjective outcome measures. However, symptom improvement supports the therapeutic potential of acupuncture as an adjunctive intervention in psychotic-spectrum anxiety.

5 CONCLUSION

Adjunctive Zhu's scalp acupuncture combined with auricular laser acupuncture was feasible and well-tolerated in a patient with schizoaffective disorder and comorbid GAD, with clinically meaningful improvements in anxiety, mood, and sleep and qualitative improvement in autonomic balance. Larger controlled studies are required to establish efficacy, optimal protocols, and maintenance strategies.

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