

Complete Recovery of 19-Year Bilateral Sudden Sensorineural Hearing Loss After 16 Days of Combined Chinese-Western Medicine Treatment: A Case Report with Long-Term Follow-up

wenxia Li

doctor3399@qq.com

Beijing Pingshantang Institute of Refractory Diseases

Case Report

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Abstract

Background: Sudden sensorineural hearing loss (SSNHL) is generally considered irreversible if not treated within the acute window. Chronic sensorineural hearing loss persisting for years is widely regarded as permanent, with no effective restorative treatment available. We report a case of 19-year bilateral SSNHL that achieved complete hearing recovery following combined Chinese-Western medicine treatment.

Case Presentation: A 45-year-old male presented with a 19-year history of bilateral sudden sensorineural hearing loss (onset in 2006). At the time of onset, he had no history of occupational noise exposure. He was first treated at Liangshan Prefecture Hospital with no improvement, and was subsequently transferred to Mianyang People's Hospital and Mianyang Specialized Otolaryngology Hospital, where his hearing loss progressed despite treatment. One year later, he was examined at West China Hospital, Sichuan University, and was told the condition was incurable. Consequently, he received no further treatment for the following 18 years. Notably, he subsequently worked in a factory with chronic exposure to loud machinery noise for many years. Pre-treatment pure-tone audiometry showed right ear hearing at 80 dB HL and left ear at 60 dB HL. After 16 days of combined Chinese-Western medicine treatment in 2025, hearing completely normalized. An independent follow-up pure-tone audiometry at Mianyang Otolaryngology Hospital on November 2, 2025, confirmed normal hearing in both ears (right and left ear PTA: 20 dB HL). At the most recent follow-up (September 23, 2026), pure-tone audiometry at West China Fourth Hospital confirmed normal hearing in both ears (right and left ear PTA: 15 dB HL), with normal middle ear function and no recurrence.

Conclusion: This case demonstrates that even long-standing SSNHL, previously deemed irreversible, can be completely reversed by combined Chinese-Western medicine. The sustained recovery over 1 year post-treatment, confirmed by independent tertiary hospitals, challenges the conventional view that chronic sensorineural hearing loss is permanent.

1. Introduction

Sudden sensorineural hearing loss (SSNHL) is defined as a rapid loss of hearing of at least 30 dB across three consecutive frequencies, developing within 72 hours. The condition affects approximately 5–20 per 100,000 individuals annually. The etiology remains largely unknown in the majority of cases, and current treatment options—including corticosteroids, antiviral agents, and hyperbaric oxygen therapy—are primarily effective only when administered within the first two weeks of onset. Once the disease course exceeds several months, sensorineural hearing loss is widely regarded as irreversible, with no restorative treatment available [1, 2].

The prevailing consensus holds that chronic sensorineural hearing loss, particularly when persisting for years, is permanent. This view is based on the assumption that cochlear hair cells and spiral ganglion neurons cannot regenerate in adult mammals. Consequently, patients with long-standing hearing loss are generally excluded from active restorative treatment research [3, 4].

Here, we report a case of 19-year bilateral SSNHL that achieved complete hearing recovery following combined Chinese-Western medicine treatment. At the most recent follow-up in 2026, pure-tone audiometry at an independent tertiary otolaryngology hospital confirmed normal hearing in both ears, with no recurrence. This case challenges the conventional view that chronic sensorineural hearing loss is irreversible and suggests a potential role for combined Chinese-Western medicine in this population.

This case is part of a long-term clinical observation series on refractory diseases at Beijing Pingshantang Institute of Refractory Diseases. Each case is reported independently because it represents a distinct disease entity, treatment course, and long-term follow-up. The series aims to share these rare and independent observations with the global medical community.

2. Case Presentation

A 45-year-old male presented with a 19-year history of bilateral sudden sensorineural hearing loss (onset in 2006). At the time of onset, he had no history of occupational noise exposure. He was first treated at Liangshan Prefecture Hospital, with no improvement. He was subsequently transferred to Mianyang People's Hospital and Mianyang Specialized Otolaryngology Hospital, where his hearing loss progressed despite treatment. One year later, he was examined at West China Hospital, Sichuan University, and was told the condition was incurable. Consequently, he received no further treatment for the following 18 years. Notably, he subsequently worked in a factory with chronic exposure to loud machinery noise for many years despite his hearing impairment.

Pre-treatment pure-tone audiometry showed right ear hearing at 80 dB HL and left ear at 60 dB HL. In 2025, he sought treatment at our institute and received 16 days of combined Chinese-Western medicine treatment. Following treatment, pure-tone audiometry showed complete restoration of hearing in both ears. After returning to Sichuan Province, he underwent an independent follow-up pure-tone audiometry at Mianyang Otolaryngology Hospital on November 2, 2025, which confirmed normal hearing in both ears (right ear PTA: 20 dB HL; left ear PTA: 20 dB HL).

At the most recent follow-up (September 23, 2026), the patient underwent pure-tone audiometry at the Department of Otolaryngology, West China Fourth Hospital, Sichuan University. The results confirmed normal hearing in both ears (right ear PTA: 15 dB HL; left ear PTA: 15 dB HL), with normal middle ear function and normal acoustic reflex responses. No recurrence of hearing loss was observed.

Written informed consent for publication was obtained from the patient.

3. Discussion

3.1 The Irreversibility of Chronic SSNHL: A Reconsidered Premise

Chronic sensorineural hearing loss, particularly when persisting for more than one year, has long been regarded as irreversible. This view is based on the assumption that cochlear hair cells and spiral ganglion neurons cannot regenerate in adult mammals. However, this case demonstrates that even after 19 years of hearing loss, complete hearing recovery is possible. This finding challenges the traditional premise that chronic sensorineural hearing loss represents a permanent functional endpoint [3, 4].

3.2 The Neuro-Vascular Coupling Regeneration Hypothesis

The theoretical framework underlying this case is the "neuro-vascular coupling regeneration" hypothesis, which posits that neural regeneration is coupled with angiogenesis, and that restoration of the local vascular microenvironment is a prerequisite for neural repair. In the auditory system, the cochlear nerve and the spiral ganglion are highly dependent on adequate blood supply. Chronic ischemia and microvascular pathological consolidation may create a microenvironment that suppresses endogenous neural repair. By improving local microcirculation, combined Chinese-Western medicine may restore the vascular microenvironment and activate endogenous regeneration of the auditory neural pathway [5, 6].

3.3 Clinical Implications

This case suggests that even long-standing sensorineural hearing loss may be reversible under specific therapeutic conditions. The complete recovery observed in this patient, confirmed by an independent tertiary otolaryngology hospital after long-term follow-up, provides objective evidence for the potential efficacy of combined Chinese-Western medicine. Notably, despite years of ongoing occupational noise exposure following the onset of hearing loss, the patient achieved complete hearing recovery after 16 days of treatment. This suggests that the therapeutic approach may possess a robust capacity to reverse chronic cochlear damage even in a hostile acoustic environment. Future studies should incorporate imaging modalities such as magnetic resonance imaging and histological assessment where feasible, to further characterize the reversal process.

3.4 Limitations

This is a single-case report, and the findings require validation in larger, prospective studies. The mechanisms underlying the observed recovery remain to be fully elucidated at the molecular and histological levels. Additionally, the specific composition of the Chinese herbal formula was not disclosed due to intellectual property considerations.

4. Conclusion

This case demonstrates that even 19-year bilateral sudden sensorineural hearing loss, previously deemed irreversible, can be completely reversed by combined Chinese-Western medicine. Long-term follow-up at independent tertiary hospitals confirmed sustained normal hearing in both ears. This finding challenges the conventional view that chronic sensorineural hearing loss is permanent and supports further investigation of integrated therapeutic strategies in this population.

Declarations

Ethics Statement

This study is a retrospective case report conducted in accordance with the Declaration of Helsinki. Written informed consent for publication was obtained from the patient. All clinical data have been thoroughly anonymized to protect patient privacy. The Chinese herbal medicines used are derived from traditional Chinese medicinal materials that have been used for thousands of years, combined with standard Western medicine supportive care. All physical therapies use medical devices approved by the National Medical Products Administration.

Use of AI-assisted tools

The authors used AI-assisted tools for language editing and translation only. All clinical data, analysis, and conclusions are the original work of the authors.

Conflicts of Interest

The author declares no conflicts of interest.

Data Availability Statement

The clinical data supporting this case report are stored in the medical records archive of Beijing Pingshantang Institute of Refractory Diseases. Due to patient privacy and intellectual property considerations, the raw data are not publicly available but can be made available to qualified researchers upon reasonable request, subject to ethical approval.

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