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# PROSPECTIVE EVALUATION OF HEARING RECOVERY AFTER EARLY VERSUS DELAYED MANAGEMENT OF SUDDEN SENSORINEURAL HEARING LOSS

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ABSTRACT

**Background:** Sudden sensorineural hearing loss (SSNHL) is an otologic emergency that requires prompt recognition and management to optimise hearing recovery. Although corticosteroids remain the cornerstone of therapy, the impact of treatment timing continues to generate clinical debate. Early intervention has been hypothesised to improve outcomes, yet many patients present late, limiting the therapeutic benefit. Evaluating the influence of early versus delayed treatment on functional hearing outcomes is therefore essential for guiding evidence-based practice. The aim is to prospectively assess and compare hearing recovery outcomes in patients with SSNHL managed with early (≤7 days) versus delayed (>7 days) initiation of corticosteroid-based therapy at a tertiary-care centre.

**Materials and Methods:** This prospective comparative study included 48 patients diagnosed with idiopathic SSNHL based on standard clinical and audiological criteria. Participants were divided into early-treatment (n=26) and delayed-treatment (n=22) groups. All underwent detailed clinical evaluation, pure-tone audiometry, speech reception threshold (SRT) assessment and speech discrimination score (SDS) measurement at baseline and follow-up. Management consisted of systemic steroids, intratympanic steroids, or a combination. Outcomes were categorised using Siegel's criteria, and improvements in PTA, SRT and SDS were analysed using SPSS version 26.0. Baseline variables were compared to ensure group equivalence.

**Results:** Baseline demographic and clinical characteristics were comparable between groups ($p>0.05$). Early treatment resulted in significantly higher complete recovery (38.46%) compared with delayed treatment (13.64%) ($p=0.04$), and a lower rate of no recovery (11.54% vs 31.82%; $p=0.04$). Audiological improvements were markedly greater in the early group, with higher mean gains in PTA (28.73 ± 11.49 dB vs 16.64 ± 9.58 dB; $p=0.001$), SRT (22.19 ± 10.74 dB vs 13.55 ± 8.91 dB; $p=0.004$) and SDS (21.46% ± 12.17 vs 11.82% ± 9.72; $p=0.006$). Tinnitus resolution was also more frequent in early-treated patients (57.69% vs 31.82%). Treatment modality distribution did not differ significantly between groups.

**Conclusion:** Early initiation of corticosteroid-based therapy substantially improves hearing recovery in SSNHL patients, yielding better audiological outcomes and higher complete recovery rates. These findings emphasise the critical importance of timely intervention and support treating SSNHL as a true otologic emergency.

**Keywords:** Sudden sensorineural hearing loss, early treatment, delayed treatment, corticosteroids, hearing recovery.

## INTRODUCTION

Sudden sensorineural hearing loss (SSNHL) is a dramatic and often frightening presentation, typically defined as a rapid decline of at least 30 dB over three contiguous frequencies occurring within 72 hours in the absence of an obvious conductive cause. It is regarded as an otologic emergency because the window for effective intervention is narrow and the degree of long-term handicap can be substantial, particularly in working-age adults who rely on binaural hearing for communication. SSNHL is most often unilateral, but bilateral or sequential involvement can occur, making early recognition and intervention crucial for preserving hearing and quality of life.[1] Despite decades of investigation, the underlying etiology of idiopathic SSNHL remains incompletely understood. Proposed mechanisms include viral infection of the cochlea, immune-mediated inner-ear inflammation, microvascular compromise of the stria vascularis and mechanical membrane ruptures, and it is likely that more than one of these processes can converge on a final common pathway of acute cochlear injury. Observations from systemic autoimmune, vascular and hematologic disorders support the concept that SSNHL is a heterogeneous syndrome rather than a single disease entity. In routine practice, however, most cases present without an identifiable cause and are therefore classified as idiopathic.[2] Epidemiological data suggest that SSNHL affects a meaningful proportion of the population, with incidence estimates ranging from 5 to 27 per 100,000 persons annually and a predominance in middle-aged adults. Guideline-driven reviews emphasise that many cases go unreported or are initially misattributed to benign conditions such as cerumen impaction or eustachian tube dysfunction, leading to delays in appropriate referral and audiometric confirmation. Patients typically report a sudden or rapidly progressive unilateral loss of hearing, frequently upon awakening, often accompanied by tinnitus, aural fullness and varying degrees of vertigo or imbalance.[2] A major challenge in SSNHL research and clinical management is the substantial rate of spontaneous recovery. Classic natural-history and cohort studies demonstrate that approximately 45–65% of patients may show some degree of hearing improvement without any specific treatment, and that a considerable proportion achieve functional hearing levels within the first two weeks after onset.[3,4] Spontaneous recovery is not uniform; better outcomes are generally seen in patients with less severe initial loss and favourable audiometric configurations, whereas those with profound or pan-frequency deficits tend to have poorer outcomes, complicating the interpretation of therapeutic trials and making it difficult to distinguish the effect of an intervention from the natural course of the disease.[3,4] Multiple prognostic factors for hearing recovery have been identified. Age at onset, the presence of vertigo, the degree of initial hearing loss, the audiogram pattern, cardiovascular comorbidities and, importantly, the interval between symptom onset and initiation of treatment have all been shown to correlate with outcome. Studies consistently report that older age and coexisting systemic diseases are associated with lower recovery rates, and that patients who receive treatment within the first week generally fare better than those whose therapy is delayed.[4,5] Population-based databases and institutional cohorts have reinforced the observation that time to presentation is one of the few modifiable factors that clinicians can influence, alongside the choice and intensity of therapy.[6,7] Systemic corticosteroids have become the mainstay of pharmacologic management for idiopathic SSNHL, based largely on their anti-inflammatory and anti-edematous properties within the cochlea.[1,2] Intratympanic steroid administration has emerged as an important alternative or adjunct, offering higher local drug levels while potentially reducing systemic adverse effects. Contemporary guidelines recommend prompt audiometric evaluation to confirm SSNHL, followed by discussion of systemic steroids, intratympanic steroids or a combination regimen within a relatively short therapeutic window, typically the first two weeks after onset. Nonetheless, there remains debate regarding the relative contribution of treatment timing versus treatment modality to overall hearing recovery, particularly when patients present after the commonly recommended window for initial therapy.

## MATERIALS AND METHODS

This study was designed as a prospective comparative evaluation conducted at a tertiary-care otolaryngology center. All patients presenting with a clinical diagnosis of sudden sensorineural hearing loss (SSNHL) were assessed, managed, and followed by the same clinical team to ensure uniformity in diagnostic and therapeutic protocols. Patients were allocated into early-management and delayed-management groups based on the time interval between onset of hearing loss and initiation of treatment. A total of 48 patients fulfilling the diagnostic criteria of SSNHL were enrolled consecutively. SSNHL was defined as a sudden loss of ≥30 dB over at least three contiguous frequencies occurring within 72 hours. Patients aged 18 years and above were included after informed consent. Exclusion criteria comprised conductive or mixed hearing loss, previous ear surgery, chronic otitis media, retrocochlear pathology on imaging, recurrent SSNHL, traumatic or noise-induced hearing loss, ototoxic drug exposure, or systemic conditions known to affect hearing such as uncontrolled diabetes or autoimmune inner ear disease. Patients were divided into an early-treatment group (treatment initiated within the first 7 days) and a delayed-treatment group (treatment initiated after 7 days).

**Methodology**

All participants underwent a comprehensive otological and general physical examination. Detailed history regarding onset of hearing loss, associated tinnitus, vertigo, aural fullness, prior medical therapy, and pre-existing comorbidities was recorded. Baseline vital parameters, neurological status, and risk factors such as smoking, hypertension, and dyslipidemia were also documented. Otoendoscopy was performed to exclude middle-ear pathology. MRI internal auditory canal with contrast was obtained in selected cases to rule out retrocochlear lesions when clinically indicated.

**Audiological Assessment**

Pure-tone audiometry (PTA) was carried out at presentation and subsequently at follow-up intervals. Thresholds were measured at 0.5, 1, 2, 4, and 8 kHz and pure-tone averages were calculated for 3-frequency (0.5–2 kHz) and 4-frequency (0.5–4 kHz) averages. Speech discrimination score (SDS) and speech reception threshold (SRT) were also recorded. Hearing recovery was categorized based on Siegel's criteria into complete, partial, slight, or no recovery. Repeat PTA was used to document the degree of hearing improvement following treatment.

**Management Protocol**

Both groups received standardized treatment based on institutional guidelines. Systemic corticosteroid therapy was initiated using oral prednisolone in tapering doses unless contraindicated. Intratympanic steroid injections were considered for patients with poor response to systemic therapy or who had contraindications to systemic steroids. Adjunctive medications such as vasodilators, antioxidants, or proton-pump inhibitors were prescribed according to clinical need. All patients were counseled on avoidance of noise exposure, hydration, and compliance with follow-up schedules.

**Outcome Measures**

Primary outcome was the degree of hearing recovery assessed using Siegel's criteria and quantified through PTA changes from baseline to final follow-up. Secondary outcomes included improvement in speech discrimination scores, resolution of tinnitus, and reduction in vertigo severity where applicable. Time from symptom onset to initiation of therapy was recorded as a key prognostic variable. Recovery patterns were compared between early and delayed treatment groups.

**Statistical Analysis**

All collected data were coded and analyzed using IBM SPSS Statistics for Windows, Version 26.0. Continuous variables such as audiometric thresholds were expressed as mean ± standard deviation, while categorical variables were presented as frequencies and percentages. Normality was assessed using the Shapiro–Wilk test. Independent sample t-tests or Mann–Whitney U tests were used for comparison of continuous variables between groups, depending on data distribution. Chi-square or Fisher's exact test was applied for categorical variables. A p-value of $<0.05$ was considered statistically significant.

## RESULTS

**[Table 1] Baseline Demographic and Clinical Characteristics**

The baseline characteristics of the 48 patients were comparable between the early and delayed treatment groups. The mean age of patients in the early treatment group was 42.38 ± 12.14 years, while the delayed group had a similar mean age of 44.09 ± 13.26 years, with no significant difference ($p = 0.62$). Gender distribution was nearly identical between the two groups, with males comprising 53.85% in the early group and 54.55% in the delayed group, indicating no gender-related imbalance ($p = 0.89$). Clinical symptoms such as tinnitus and vertigo were also similarly distributed, with tinnitus present in 69.23% of early-treated patients and 68.18% of delayed-treated patients ($p = 0.93$), and vertigo present in 38.46% and 40.91% respectively ($p = 0.85$). Comorbidities, including hypertension, diabetes mellitus, and smoking status, showed no significant differences between groups, with p-values exceeding 0.48 in all categories.

**[Table 2] Audiological Parameters at Presentation**

Audiological assessment at presentation revealed that both groups exhibited similar degrees of initial hearing impairment. The mean pure tone average (PTA) was 69.42 ± 15.78 dB in the early treatment group and 72.18 ± 16.21 dB in the delayed group, showing no statistically significant difference ($p = 0.52$). Similarly, the speech reception threshold (SRT) and speech discrimination score (SDS) were comparable between groups, with SRT at 63.27 ± 14.34 dB versus 66.09 ± 15.12 dB ($p = 0.48$), and SDS at 48.11% ± 17.22 versus 45.36% ± 18.09 ($p = 0.56$). The distribution of audiogram patterns—flat, downsloping, upward-sloping, and profound—also showed no significant variation between the groups ($p = 0.77$).

**[Table 3] Treatment Modalities Utilized**

The choice of treatment modality was similar in both the early and delayed intervention groups, with no statistically significant differences in the distribution of treatment types. Systemic corticosteroid therapy alone was the most commonly used modality in both groups, administered to 61.54% of early-treated patients and 50.00% of delayed-treated patients ($p = 0.41$). Intratympanic steroids alone were used in 11.54% of early-treated patients compared to 18.18% in the delayed group ($p = 0.51$). Combined systemic and intratympanic steroid therapy was used in 26.92% of early-treated patients and 31.82% of delayed-treated patients ($p = 0.68$). Since no significant difference was observed in treatment protocols, the comparison of hearing recovery outcomes between the groups is not influenced by variability in therapeutic approaches.

**[Table 4] Hearing Recovery According to Siegel's Criteria**

A significant difference in hearing recovery was observed between the early and delayed treatment groups. Complete recovery occurred in 38.46% of patients who received early treatment, compared with only 13.64% in the delayed group, and this difference was statistically significant (p = 0.04). Partial recovery rates were similar between groups, at 30.77% and 27.27% respectively, with no significant difference (p = 0.78). Slight recovery occurred in 19.23% of early-treated patients and 27.27% of delayed-treated patients (p = 0.51). Importantly, the rate of no recovery was significantly higher in the delayed treatment group (31.82%) compared with the early treatment group (11.54%), with a statistically significant p-value of 0.04.

**[Table 5] Mean Improvement in Audiological Parameters After Treatment**

Analysis of post-treatment audiological improvements showed that early-treated patients exhibited significantly better gains across all key hearing parameters. The improvement in PTA was markedly higher in the early treatment group (28.73 ± 11.49 dB) compared with the delayed group (16.64 ± 9.58 dB), with a highly significant p-value of 0.001. Similarly, improvement in SRT was significantly greater in early-treated patients (22.19 ± 10.74 dB) versus delayed-treated patients (13.55 ± 8.91 dB), with p = 0.004. Speech discrimination scores improved by 21.46% ± 12.17 in the early group and 11.82% ± 9.72 in the delayed group, also showing significant difference (p = 0.006). Tinnitus resolution was observed in 57.69% of early-treated patients compared to 31.82% of delayed-treated patients, approaching statistical significance (p = 0.06).

**Table 1: Baseline Demographic and Clinical Characteristics of Patients (N = 48)**

| Variable | Early Treatment (n=26) | Delayed Treatment (n=22) | Total (N=48) | p-value |
|---|---|---|---|---|
| Mean Age (years ± SD) | 42.38 ± 12.14 | 44.09 ± 13.26 | 43.17 ± 12.63 | 0.62 |
| Gender | | | | 0.89 |
| Male | 14 (53.85%) | 12 (54.55%) | 26 (54.17%) | |
| Female | 12 (46.15%) | 10 (45.45%) | 22 (45.83%) | |
| Tinnitus Present | 18 (69.23%) | 15 (68.18%) | 33 (68.75%) | 0.93 |
| Vertigo Present | 10 (38.46%) | 9 (40.91%) | 19 (39.58%) | 0.85 |
| Comorbidities | | | | |
| Hypertension | 8 (30.77%) | 7 (31.82%) | 15 (31.25%) | 0.94 |
| Diabetes Mellitus | 5 (19.23%) | 4 (18.18%) | 9 (18.75%) | 0.92 |
| Smoking | 6 (23.08%) | 7 (31.82%) | 13 (27.08%) | 0.48 |

**Table 2: Audiological Parameters at Presentation**

| Parameter | Early Treatment (n=26) | Delayed Treatment (n=22) | p-value |
|---|---|---|---|
| Mean PTA (dB ± SD) | 69.42 ± 15.78 | 72.18 ± 16.21 | 0.52 |
| SRT (dB ± SD) | 63.27 ± 14.34 | 66.09 ± 15.12 | 0.48 |
| SDS (% ± SD) | 48.11 ± 17.22 | 45.36 ± 18.09 | 0.56 |
| Type of Audiogram | | | 0.77 |
| Flat | 8 (30.77%) | 7 (31.82%) | |
| Downsloping | 9 (34.62%) | 9 (40.91%) | |
| Upward-sloping | 6 (23.08%) | 4 (18.18%) | |
| Profound | 3 (11.54%) | 2 (9.09%) | |

**Table 3: Treatment Modalities Utilized**

| Treatment Type | Early (n=26) | Delayed (n=22) | Total (N=48) | p-value |
|---|---|---|---|---|
| Systemic Steroids Only | 16 (61.54%) | 11 (50.00%) | 27 (56.25%) | 0.41 |
| Intratympanic Steroids Only | 3 (11.54%) | 4 (18.18%) | 7 (14.58%) | 0.51 |
| Combined (Systemic + Intratympanic) | 7 (26.92%) | 7 (31.82%) | 14 (29.17%) | 0.68 |

**Table 4: Hearing Recovery According to Siegel's Criteria**

| Recovery Category | Early Treatment (n=26) | Delayed Treatment (n=22) | Total (N=48) | p-value |
|---|---|---|---|---|
| Complete Recovery | 10 (38.46%) | 3 (13.64%) | 13 (27.08%) | 0.04* |
| Partial Recovery | 8 (30.77%) | 6 (27.27%) | 14 (29.17%) | 0.78 |
| Slight Recovery | 5 (19.23%) | 6 (27.27%) | 11 (22.92%) | 0.51 |
| No Recovery | 3 (11.54%) | 7 (31.82%) | 10 (20.83%) | 0.04* |

Significant at $p < 0.05$

**Table 5: Mean Improvement in Audiological Parameters After Treatment**

| Outcome Parameter | Early Treatment (n=26) | Delayed Treatment (n=22) | p-value |
|---|---|---|---|
| Improvement in PTA (dB ± SD) | 28.73 ± 11.49 | 16.64 ± 9.58 | 0.001* |
| Improvement in SRT (dB ± SD) | 22.19 ± 10.74 | 13.55 ± 8.91 | 0.004* |
| Improvement in SDS (% ± SD) | 21.46 ± 12.17 | 11.82 ± 9.72 | 0.006* |
| Tinnitus Resolution | 15 (57.69%) | 7 (31.82%) | 0.06 |

Significant at $p < 0.05$.

## DISCUSSION

The demographic and clinical profile of the present cohort is broadly consistent with previously published series of idiopathic SSNHL. In our study, the mean age was 43.17 ± 12.63 years with a slight male predominance (54.17%), and tinnitus and vertigo were present in 68.75% and 39.58% of patients, respectively. Comorbidities such as hypertension (31.25%) and diabetes (18.75%) were frequent but evenly distributed between the early and delayed treatment groups, suggesting that differences in outcome are unlikely to be driven by baseline risk factors. Arjun et al (2015) evaluated 40 SSNHL patients and reported a similar age range (11–65 years), a recovery rate of 62.5% at one month, tinnitus in 55% and vertigo in 12.5% of cases, but found that patients with diabetes or hypertension had markedly lower recovery (only 14.3% of diabetics and none with hypertension recovered).[8]

Audiologically, both early and delayed groups presented with severe initial deficits (mean PTA 69.42 ± 15.78 dB vs 72.18 ± 16.21 dB; SRT 63.27 ± 14.34 dB vs 66.09 ± 15.12 dB; SDS 48.11% ± 17.22 vs 45.36% ± 18.09), indicating that this was a predominantly severe SSNHL cohort rather than one dominated by mild losses. Using Siegel's criteria, overall recovery (complete + partial + slight) in our series was 79.17% (38/48), with 27.08% achieving complete recovery. Lee et al (2014), in a clinical analysis of 289 SSNHL cases, similarly observed that most patients presented with severe or profound losses and reported overall steroid-treated recovery rates in the range of 47–63%, depending on audiogram configuration and prognostic factors.[9]

When outcomes are interpreted in the context of Siegel-based classifications, our results align well with contemporary work that refines these criteria. In the present cohort, complete recovery occurred in 27.08% and some degree of hearing improvement (CR + PR + SL) in 79.17%. Cheng et al (2018) applied a modified Siegel's system to 110 SSNHL patients treated with combined systemic and intratympanic steroids and reported hearing improvement (CR + PR + SI) in 56/110 (50.9%) overall; notably, patients with pretreatment hearing grade 3 (46–70 dB) had the highest improvement rate at 88.2% (30/34), whereas those with more profound baseline losses had substantially poorer outcomes.[10]

The most striking observation in this study is the impact of treatment timing on categorical recovery outcomes. Patients who commenced therapy within 7 days achieved complete recovery in 38.46% and had a no-recovery rate of only 11.54%, whereas those treated after 7 days showed a markedly lower complete recovery rate of 13.64% and a substantially higher no-recovery rate of 31.82% (p = 0.04 for both comparisons). This time-dependent gradient closely mirrors the findings of Zhang et al (2023), who developed a prognostic nomogram in a retrospective cohort and demonstrated that favourable recovery fell sharply with increasing treatment delay: complete/partial recovery was observed in 50.22% of patients treated within ≤3 days, 48.97% with a 4–7-day delay, 30.43% when treatment began after 8–14 days, and only 6.46% when initiated beyond 14 days; a treatment delay >8 days emerged as an independent predictor of poor outcome.[11]

The magnitude of audiometric improvement in our early-treatment group further supports the prognostic advantage of prompt therapy. Mean PTA gain was 28.73 ± 11.49 dB in the early group compared with 16.64 ± 9.58 dB in the delayed group (p = 0.001), while SRT improved by 22.19 ± 10.74 dB versus 13.55 ± 8.91 dB (p = 0.004), and SDS improved by 21.46% ± 12.17 versus 11.82% ± 9.72 (p = 0.006). Jo et al (2015) specifically examined severe-to-profound SSNHL (>70 dB) and found that after 3 weeks, recovery rates and mean hearing gains were 61.0% and 23.85 dB in the 70 dB group but only 10.0% and 6.61 dB in the ≥100 dB group, with an overall average gain of 18.36 dB; most recovery occurred within the first 3 weeks, with little improvement beyond 3 months.[12] The PTA gain of 28.73 dB in our early-treatment cohort exceeds Jo et al's overall mean and approximates their best-performing subgroup, whereas the 16.64 dB gain in delayed patients is closer to outcomes in more severely impaired groups, suggesting that delaying therapy effectively pushes patients into a less favourable prognostic category even when baseline hearing is similar.

Importantly, the superiority of early treatment in our series cannot be attributed to differences in steroid route, as the distribution of treatment modalities was comparable between groups. Systemic steroids alone were used in 61.54% of early and 50.00% of delayed patients, intratympanic-only regimens in 11.54% and 18.18%, and combined systemic plus intratympanic therapy in 26.92% and 31.82%, respectively, with no statistically significant differences. These findings resonate with the multicentre randomized trial by Rauch et al (2011), which enrolled 250 patients treated within 14 days of onset and compared 60 mg/day of oral prednisone (with taper) to four intratympanic methylprednisolone injections; mean PTA improvement at 2 months was 30.7 dB in the oral group and 28.7 dB in the intratympanic group, demonstrating non-inferiority of intratympanic therapy.[13]

Broader evidence syntheses also support our conclusion that timing, rather than route, is the dominant modifiable factor in SSNHL management. Mirian and Ovesen (2020) performed a systematic review and meta-analysis of seven randomized trials (710 patients) comparing primary intratympanic and systemic corticosteroid therapy and reported no clinically meaningful differences in final hearing outcomes between the two approaches, with average differences typically less than 5 dB; however, salvage intratympanic injections after unsuccessful systemic therapy provided additional gains of approximately 8–10 dB in some studies.[14] In our cohort, combined

systemic and intratympanic therapy was used in nearly one-third of patients in both groups, but early-treated patients still showed markedly better PTA, SRT and SDS improvement than those treated later. This pattern, together with Mirian et al's findings, indicates that although intratympanic therapy is a useful adjunct or alternative in selected patients, it cannot compensate for the detrimental effect of delayed initiation of any form of corticosteroid treatment.

Nevertheless, not all patients benefitted from therapy, particularly when treatment was delayed, and about one-fifth (20.83%) of the total cohort fell into the 'no recovery' category. This variability echoes the ongoing controversy regarding the true magnitude of steroid benefit in SSNHL. Crane et al (2015) conducted a meta-analysis of randomized controlled trials examining systemic steroids for idiopathic SSNHL and found that while some individual trials suggested benefit, pooled data did not consistently show a large or unequivocal advantage over placebo, largely due to heterogeneity in inclusion criteria, treatment delays, dosing regimens and outcome definitions.[15] Compared with the mixed outcomes in the trials summarised by Crane et al, our prospective study using uniform diagnostic criteria, exclusion of non-idiopathic causes, and standardised systemic ± intratympanic steroid protocols demonstrated a relatively high overall improvement rate of 79.17%, particularly in those treated within 7 days, suggesting that careful patient selection and early, protocol-driven management can yield better results than those observed in more heterogeneous trial populations.

Finally, our findings are in line with classic evidence that steroids confer their greatest benefit in patients with moderate to severe, but not profoundly deaf, ears when given early in the course of disease. Wilson et al (1980), in a landmark double-blind, placebo-controlled trial, showed that systemic glucocorticoid therapy produced a statistically significant improvement in hearing recovery for idiopathic sudden hearing loss, particularly in those with moderate baseline losses, supporting an inflammatory or viral cochleitis mechanism responsive to steroids.[16] In our cohort, baseline PTAs around 70 dB and a mean gain of 28.73 dB in the early-treatment group imply that many patients moved from non-serviceable to serviceable hearing levels, whereas the smaller 16.64 dB gain in the delayed group left a considerably higher proportion without meaningful recovery.

## CONCLUSION

The findings of this study clearly demonstrate that early initiation of treatment within the first seven days of symptom onset significantly improves hearing recovery in patients with sudden sensorineural hearing loss. Early-treated patients achieved higher rates of complete recovery and greater improvements in PTA, SRT and SDS compared with those who received delayed therapy. Since baseline characteristics and treatment modalities were similar between groups, the superior outcomes can be attributed primarily to timely intervention. These results reinforce the importance of recognising SSNHL as an otologic emergency and highlight the need for prompt clinical evaluation and initiation of corticosteroid-based management to optimise hearing outcomes.

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