

Successful ayurvedic management of Sensorineural hearing loss - A case report

ABSTRACT

A 23-year-old female patient, presented with Hearing loss on right ear. The onset of the symptoms were 10 years back, where she met with an electric shock while she was in grade 8th, the patient only focused on her injured hand and was not even bothered of hearing loss, thus she neglected it and did not take any medical opinion. Later she noticed hearing loss and the condition was becoming worse. She couldn't understand words while using phone in right ear, when she was in 10th grade. She now consulted an ENT surgeon, who suggested to undergo audiometric tests which confirmed the biomedical diagnosis as Sensorineural hearing loss while she was in grade 11. She never took any medicines. Later she approached our hospital. The ayurvedic diagnosis was *Badriyam*. The line of treatment initially followed was *koshtashodana*. So *snehapana* and *sadyo virechana* was done. Following *Takradhara*, *vasti*, *shirovasti*, *karnapooranam* and *marsha nasya* were planned. The severity of the symptoms reduced significantly and the quality of life improved.

KEYWORDS

Sensorineural hearing loss, *Badriyam*, Electric shock induced hearing loss, Pure tone Audiometry, Tympanometry, Tuning fork test

INTRODUCTION

Sensorineural hearing loss (SNHL) results from lesions of the cochlea, 8th nerve and central auditory pathways. Sensorineural hearing loss (SNHL) can significantly impact an individual's social life, leading to feelings of isolation, frustration, and decreased quality of life.

Electric shock-induced hearing loss is a type of hearing loss caused by exposure to electrical current. Symptoms are Sudden hearing loss, Tinnitus, Ear fullness, Vertigo, Treatments include Corticosteroids, Hyperbaric oxygen therapy, Hearing aids or cochlear implants, Rehabilitation

Assessment of patients includes a detailed case history, measurement of hearing function and identification of causal factors, associated symptoms, and comorbidities. Objective test available for most hearing loss cases are Tuning fork test, audiometry, tympanometry and diagnosis is made on the basis of medical history and an assessment of the effect on the patient her family. Important questions include the character of pattern of the hearing loss, particularly whether it is a familial progressive SNHL or autoimmune SNHL.

PATIENT INFORMATION

A 23-year-old female patient, presented with hearing loss on right ear. Medical History: A 23-year-old female patient presented with hearing loss on the right ear. The patient noticed hearing loss following an electric shock. According to the patient, while she was in the 8th standard, she met with an electric shock, thus her hand was injured. She only focused on the hand injury and didn't even bother about the ear. After that, she noticed difficulty in hearing. Later she felt it difficult while using the phone on the right ear. Words heard were not clear, this was during her 10th grade. She took an audiometry for the 1st time when she was in 11th standard but never took treatment.

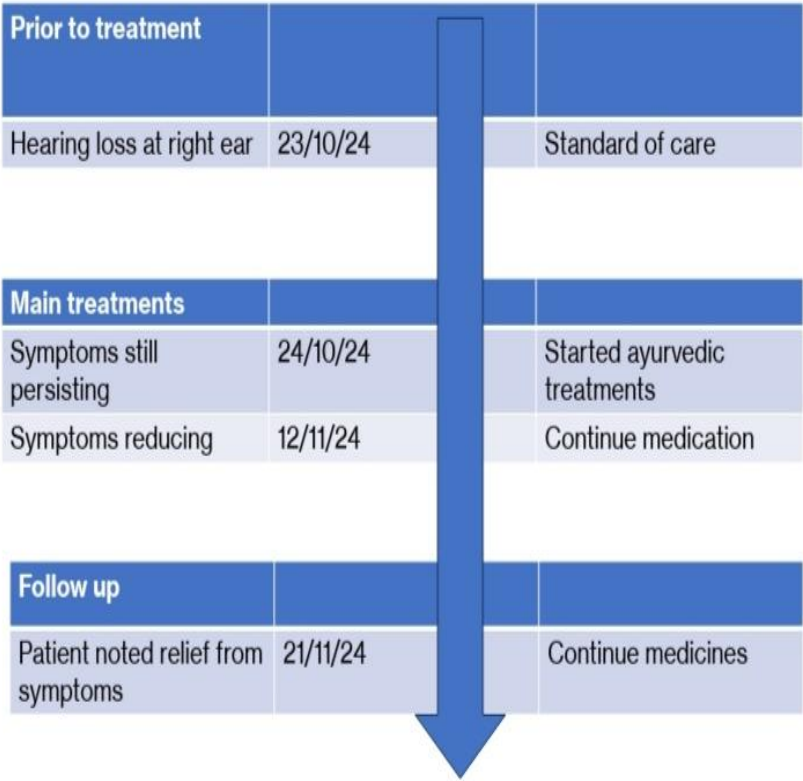
50 Following that, in 2021, another audiometry was taken and diagnosed with severe hearing loss on
51 the right ear and mild hearing loss on the left. Thus, she approached our hospital for better
52 ayurvedic management. The ayurvedic diagnosis is *Badhiryam*. Subjective parameters of hearing
53 loss (According to this patient). Symptoms are difficulty hearing soft sounds, Difficulty hearing in
54 noise, Tinnitus, Difficulty understanding speech and Communication.

55 **CLINICAL FINDINGS/PHYSICAL EXAMINATION**

56
57 Routine Ear examinations:
58 External ear examination- Both Right and Left normal
59 External auditory canal- Tympanic membrane- Cone of light - present
60 No perforation noted
61 Rinne test- AC > BC (both ear)
62 Weber test- Lateralised towards left ear
63 Absolute Bone Conduction Test: Right ear- reduced, left ear-Not Reduced
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65 **TIMELINE**

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67 *Image 1. Timeline of events attached below*
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72 **DIAGNOSTIC ASSESSMENT**

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74 Modern Diagnostic parameter: The biomedical diagnosis was made based on Tympanogram and
75 audiometric tests which showed bilateral 'A' type tympanogram, and Pure tone audiometry results
76 in moderate severe sensorineural hearing loss in right ear and mild sensorineural hearing loss in left.
77 her Tympanometry is, in Right ear: Reflexes are absent, in left ear: reflex is present, except at 4 Hz.
78
79 *Ayurvedic* Assessment was done based on the clinical evaluation by the *ayurvedic* physician.

80 Differential Diagnosis- This does not apply as the patient came in with a definite diagnosis.
81 Prognosis- Depends on Onset, Duration, Severity (25 - 50% of patients may recover
82 spontaneously). Recovery may be total or partial. Younger patients and those with moderate losses
83 have better prognosis

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86 THERAPEUTIC INTERVENTION

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88 See the tab 'Treatment details'

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Name of Medicine	Dosage Form	Dosage	Mode of Administration	From - To (Date)	Medicine Reference
Gandarva hasthadi kashayam	Kashayam	15ml +45 ml lukewarm water	With lukewarm water 6am 6pm	2024-10-24 - 2024-10-31 2024-11-12-2024-11-21	Sahasrayoga kashaya prakaram
Sudarshanam Gulika	Gulika	1	8am 8pm	2024-10-24 - 2024-10-31 2024-11-16-2024-11-21	Bhaishajya ratnavali Jwaraadikaram
Gandarva hasta erandam	Tailam	5 ml	6am 6pm with kashaya	2024-11-12 - 2024-11-21	As. Ch. 15/21
Thikthakam grtham	Grtha	30ml	9pm	2024-10-22 - 2024-10-23	Ah. Ch. 19/2-7
Nimbamritaadi erandam Taila	Taila	20 ml	Virecana	2024-10-23 - 2024-10-23	Ah. Ch. 21/58-61
Vilvam pachottyaadi tailam	Taila	10 ml	Karnapoorana	2024-11-12 - 2024-11-16	Sahasra yogam. Taila prakarana
Dhanawanthara Taila	Taila	Required quantity	Sirovasti	2024-11-12 - 2024-11-16	Sahasra yogam. Taila prakarana
Dusparshakadi kashayam	Kashaya	15ml +45ml	Twice daily Before food	2024-10-22 - 2024-11-	Anubhuta dravya prayoga

		lukewarm water		05	
<i>Gorochanadi gulika</i>	<i>Gulika</i>	<i>1</i>	<i>Twice daily Before food</i>	<i>2024-11-21-2024-12-4</i>	<i>Vaidyayoga ratnavali gulika prakaram</i>
<i>Sidhamakara dwaja</i>	<i>Choornam</i>	<i>1 packet with honey</i>	<i>Twice daily After food</i>	<i>2024-11-21-2024-12-4</i>	<i>Rasa taragini</i>

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91

92 FOLLOW-UP AND OUTCOMES

93 Clinician-based assessment; Subjective parameters were assessed. Patient feels better after 3 days of
94 treatment. The patient started attaining symptomatic relief within 7 days of treatment. No pain in
95 the abdomen, normal bowels and hunger were restored.

96 Patient assessed: Tuning fork test was graded before, during and after treatment, Pure Tone
97 Audiometry was graded before and after the treatment and follow ups to assess the outcomes of the
98 treatment. They were documented as follows:

99 •Before Treatment her Tympanometry is, in Right ear: Reflexes are absent, in left ear: reflex is
100 present, except at 4 Hz

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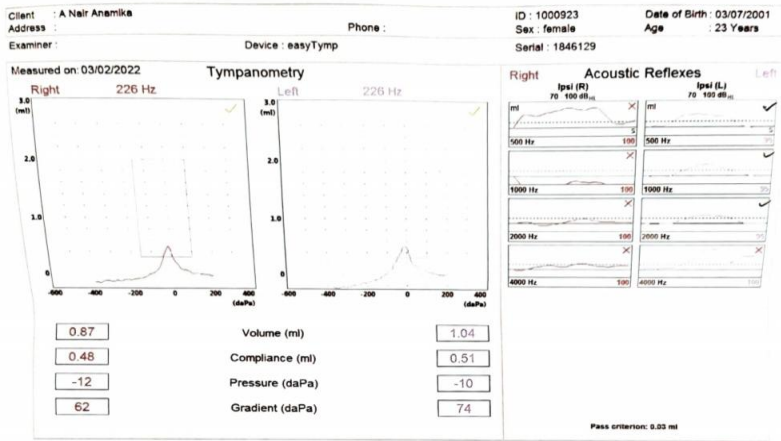
102 •Before Treatment her Pure tone Audiometry is, in right ear: moderately severe Sensorineural
103 hearing loss, in left ear: minimal hearing loss

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105 •After 30days of treatment (completion of treatment)- Right ear Moderate sensory-neural hearing
106 loss, Left ear Minimal hearing loss.

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108 *Image 1. Tympanometry results dated 03.02.2022 added below*



Notes:

MAICO

Signature:

Image 2. Tympanometry results dated 28.08.2024 added below

JOSNA
 —Speech and Hearing Clinic—

Joseph Arcade, Near Maharani Theatre,
 Pala, Kerala - 686 575, India
 Mob : 82813 27073, Tel: 04822-201275
 E-mail : info@josnaspeechandhearing.com
 Web : www.josnaspeechandhearing.com

Date: 28-08-2024

Wednesday, August 28, 2024

Respected doctor,

Thank you very much for referring Ms. Anamika A Nair for audiological evaluation.

Tympanometry results are as follows:

Right ear:

Compliance value is within normal limits.
 Ear canal volume is within normal limits.
 Peak pressure is within normal limits.
 Reflexes are absent.

Tympanogram Type: "A".

-No indication of any middle ear pathology

Left ear:

Compliance value is within normal limits.
 Ear canal volume is within normal limits.
 Peak pressure is within normal limits.
 Reflexes are present, except at 4 KHz.

Tympanogram Type: "A".

-No indication of any middle ear pathology

Speech Audiometry results are as follows:

	Right ear	Left ear
SRT	60 dB	35 dB
SDS	95%	90%

Pure Tone Audiometry results are as follows:

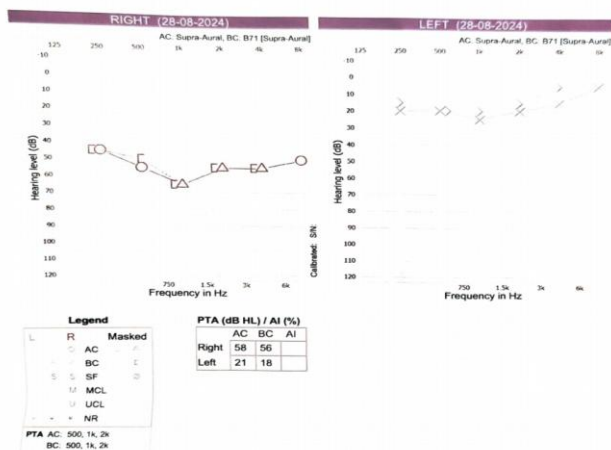
Right ear: Moderately severe sensory-neural hearing loss

Left ear: Minimal hearing loss

- Reliability: Consistent/Fair/Poor
- Remarks:

Ac Thresholds of **Right ear: 58 dB**
Left ear: 35 dB

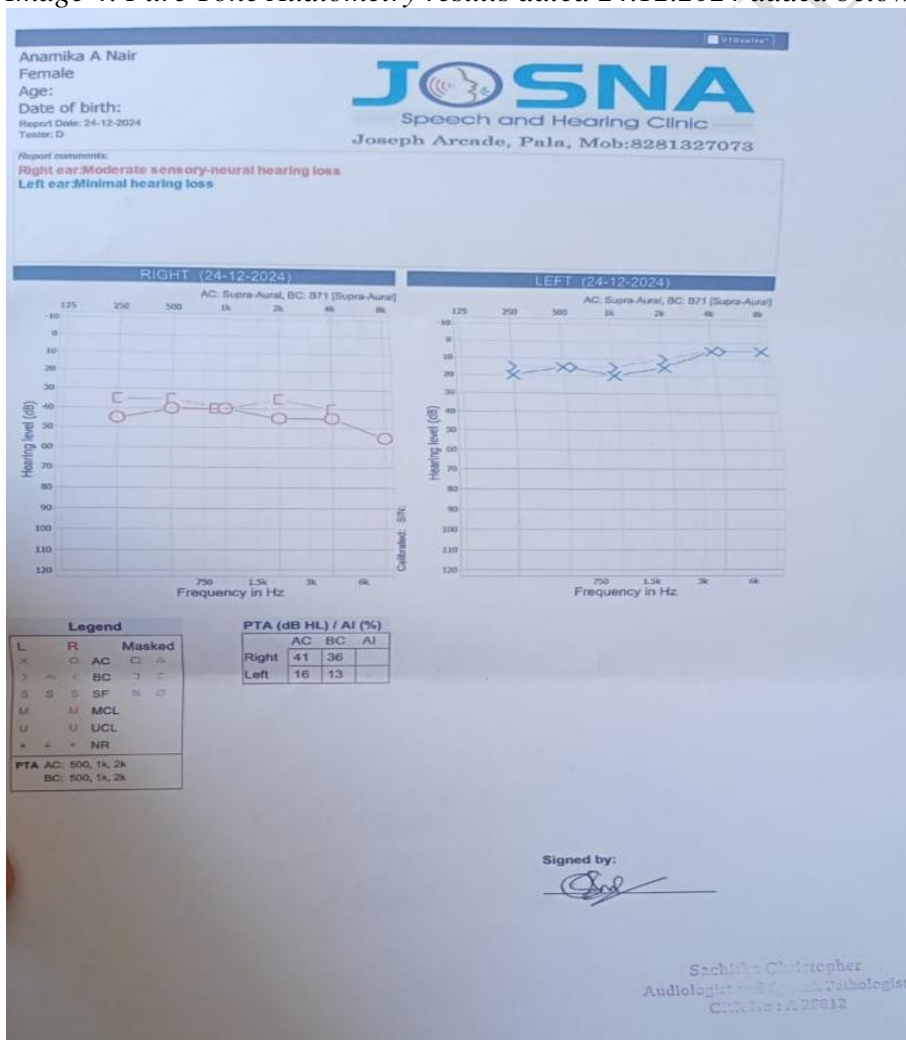
Image 3. Pure Tone Audiometry results dated 28.08.2024 added below



Signed by:

[Signature]

Image 4. Pure Tone Audiometry results dated 24.12.2024 added below



124 Intervention adherence and tolerability – The patient adhered to the prescribed treatments and
125 tolerated the treatments well.
126 Method of assessment- By monitoring the patient.
127 Adverse and unanticipated events; None reported.
128

129 DISCUSSION

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131 *Badirya* is one of the most common *karnaroga* and it affects one's daily routine. Here *Vata*
132 *kaphaja* type of *badriyam* is diagnosed. Due to *vata dosha* predominance in this condition, *vatahara*
133 measures were taken into consideration. Along with *vata dosha*, here *kapha dosha* is also involved.
134 The *Dushas* involved are *Rasa*, *Raktha*, *Mamsa*. And the condition is *Purana* thus management was
135 taken considering these

136 The treatment was started with initial *Snehapana*. *Abyangam* was also given externally. Then
137 *Virechana* was planned as a *Koshta Sodana*, keeping in mind the importance of *Koshta Sodana*
138 before starting *Shiro* procedure.

139 As per the protocol, *Gandharvahasthadi kashayam* was given for 15 days as *Vatashamanam*, *Agni*
140 *deepanam*. Along with *T. Sudarshanam* was given considering its *Tridosha hara* property.

141 *Gandharvahastho Erandam* was also given by considering its *virechana* property and
142 *vatanulomana* property.

143 *Snehapana* was using *Thikthaka Grtha* with 30 ml given at night after having "kanji".

144 Considering the site of *Roga* and *Aushadha Kala*, *Thikthaka Githa* was selected considering its
145 indication.

146 *Abhyangam* was using *Dhanwantara tailam*, Due to its *Vatahara* property

147 Following *Snehapana*, *Virechana* with *Nimba Amritha Erandam* was done as *koshtasodana*

148 This *ghrita* was selected considering its indication in *moha* thus giving priority to the site concerned
149 as well as considering the probable *nidana* of stress.

150 *Shiro* procedures such as *takradhara* with *vilwapatram*, *jadamamsi*, *sigrutwak*, *dusparshakadi*
151 *choornam* and *shirovasti* using *Dhanwantara tailam* was given for 5 days along with that
152 *karnapooranam* with *vilwampachotyaadi tailam* was given following *koshtasodana*.

153 Then *Vasti* was given considering the *Vata Dosha*

154 Following *Nasyam* was administered using *Shadbindu tailam*. *Nasyam* started with a dose of
155 2ml. All three doshas are located in the head with the predominance of *kapha*. Most of the
156 ingredients of *Shadbindu Taila* are having *Vata Shamaka* and *Vedanahara* property

157 *Dusparshakadi kashya* was given considering its *Akasha mahaboota* predominance. Along with this
158 *sidhamakaradwaja* was administered with honey considering its *vatashamana*, *sukshmaguna*, and
159 action on *indriyas*, *rasayana* and *balya karma*. Apart from this, *Karnapoorana (bahyasnehana*
160 *karma)* was done with *vilwampachottyaditailam* which is *vata hara* initiating *shamana* of *sthanika*
161 *dosha*. Along with this, *dhanwantaram tailam* was given as *shirovasti* taking into account the
162 *vataavridhi* in *sira*.

163 LEARNING POINTS/TAKE-HOME MESSAGES

164
165 This case report demonstrates the successful ayurvedic management of a case of Sensorineural
166 hearing loss in a 23-year-old female, who was not responding satisfactorily to the standard of care.
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168 INFORMED CONSENT

169 Written consent was obtained from the patient to publish the case report.

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REFERENCE

1. Vikas sinha. Ptractical ENT. 3rd ed. Vol. 1. Panama: Jaypee; 2017. 5–33.
2. Mohan Bansal. Diseases of Ear, Nose, Throat. 3rd ed. Vol. 1. Jaypee; 2021. 129–135
3. Vagbhata. Uttarasthanam. In: Vaidya Paradakara Harisastri bhisagacharya, editor. Astangahrdayam. 9th ed. Varanasi: Chaukahambha orientalia; 2005. p. 840–840.
4. Aravattazhikathu K. V Krishnan Vaidyar ASGP. Sahasra yogam. 34th ed. Vol. 1. Alappuzha: Vidyarambham Publications; 2016. 78, 310, 286,
5. Vagbhata, Ashtanga hridayam, edited by harishankar shastri, chaukambha Sanskrit series, Varanasi, reprint edition, 2002, chikitsasthana adhyaya, 2002
- 6.

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