

AYURVEDIC MANAGEMENT OF SENSORINEURAL HEARING LOSS (BADHIRYA): A CASE STUDY

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ABSTRACT

Sensorineural hearing loss (SNHL) is a type of hearing loss or deafness in which the root cause lies in the inner ear or sensory organ or the vestibulocochlear nerve. It accounts for about 90% of reported hearing loss. Till now there is no approved or recommended treatment for it, since it is a physiologic degradation and considered permanent. This case study is report worthy because it reflects the effectiveness of Ayurveda, an alternative therapy, the adoption of which brought about a drastic change in the hearing capacity of a 9 year old girl suffering from the typical symptoms of SNHL like trouble understanding speech, turning up the television to elevated levels, continually asking

people to repeat themselves, feeling excessively tired at the end of the day etc. She was made to undergo both the Ayurvedic procedures and Ayurvedic medicaments. The names of the Ayurvedic procedures adopted are *Ksheera Dhuma Nasya* (administration of vapours of decoction of Ayurvedic medicines and milk through nasal route), *Shiropichu* (keeping medicated oil soaked cotton pad over crown of head and wrapping it up with a bandage cloth), *Karnapooran* (pouring of medicated oil into ears), *Matravasti* (Therapeutic enema) and those of orally given Ayurvedic herbomineral medicines are *Divya Vatari Churna*, *Ekangveer Rasa*, *Mahavatavidhvasa Rasa*, *Brihat Vata Chintamani Rasa*, *Makaradhvaja Rasa*, *Rajat Bhasma*, *Sarivadi Vati* and *Vishatinduka Vati*. The interventions resulted into a decrease of pure tone average from 90 dB to 52.5dB in right ear and from 87.5dB to 31.25dB in the left ear.

KEYWORDS: *Badhirya*, *Karnapooran*, *Ksheera Dhuma Nasya*, *Matravasti*, Sensorineural hearing loss, *Shiropichu*.

INTRODUCTION

Sensorineural hearing loss (SNHL) refers to hearing impairment resulting from organic disorders of cochlea or the auditory nerve and its connection in brainstem. Normal hearing depends on integrity of the auditory pathway and on vascular, metabolic and endocrine systems.^[1]

Following are some of the features of SNHL^[2]:

- Difficulty understanding speech
- Problems following conversations, particularly with more than one person
- Turning up the TV and radio volume to unreasonable levels
- Continually asking others to repeat themselves
- Perceiving muffled sounds or ringing in the ears
- Becoming exceedingly tired at the end of the day

The etiology of sensorineural hearing loss is multifactorial which makes the diagnosis a challenging exercise and often an unsolved mystery. Although laboratorial and radiographical investigations are helpful up to some extent in the diagnosis, Pure Tone Audiometry (PTA) is a mandatory investigation^[1] for it.

Treatment modalities fall into three categories: pharmacological, surgical and management. As SNHL is a physiologic degradation and considered permanent, there are as of this time, no approved or recommended treatments.^[3] Pharmacological treatment options are very limited and clinically unproven.^[4] Because of risk and expense, surgery (cochlear implant) is reserved for cases of severe and disabling hearing impairment. Management of SNHL loss involves employing strategies to support existing hearing such as lip-reading, enhanced communication etc. and amplification using hearing aids.

This condition can be correlated to the disease “*Badhirya*” mentioned in nut shell in Ayurveda. As per Acharya Sushruta, when *Vata* gets lodged in *Shabdavaha Sira* (voice conducting channels) owing to obstacle imposed (*Margavarodha*) by the vitiated *Kapha*, there is manifestation of the disease called *Badhirya*, in which the person involved is unable to hear the voice made in the surrounding partially or completely depending on the intensity of the vitiation of the particular body humours.^[5,6]

CASE REPORT

A 9 year old girl was presented to the Shalakya OPD of Patanjali Ayurveda Hospital Haridwar on 20th July 2016 suffering from the typical symptoms of SNHL like trouble understanding speech, turning up the television to elevated levels, continually asking people to repeat themselves, feeling excessively tired at the end of the day etc. The *Shareera Prakriti* (body constitution) of the patient was *Kaphavataja*, had *Madhyamkoshtha* (on the basis of bowel habits), *Madhyamabala* (optimum physical strength) with good *Satva* (psychological strength) and she had mild *Agnimandya* (decreased digestion and appetite).

On examination, her pulse rate was 94/minutes, respiratory rate was 24/minutes, temperature was 97.2⁰ F and BP was 96/52 mm of Hg. The local examination revealed normal ear canals and tympanic membranes without any discharge, debris and foreign bodies. No abnormality was noticed in the functioning of respiratory, circulatory or digestive systems.

She had a past history of high grade Malaria fever at the age of 3 years, but medicine history was not revealed authentically. No any significant family history was present as per the opinion of the guardians of the patient. There was no any surgical history.

As there was no any improvement with Allopathic treatment, the patient was brought in our hospital for Ayurvedic management as a last option for getting some relief in her hearing loss. We prescribed her following medicines with an instruction to get enrolled for Ayurvedic procedures as early as possible-

1. A mixture of *Divya Vatari Churna*-500 mg, *Ekangveer Rasa*- 15 mg, *Mahavatavidhvansa Rasa*-15 mg, *Brihat Vata Chintamani Rasa* -10 mg, *Makaradhvaja Rasa*- 10 mg and *Rajat Bhasma*- 10 mg was given with honey, half an hour before breakfast in the morning and so in the evening before dinner.
2. *Sarivadi Vati*-1-1 tab (150 mg each) after breakfast and dinner (with water).
3. *Vishatinduka Vati*-1-1 tab (30 mg each) after breakfast and dinner (with water).

On 17th August 2016, she was admitted in our hospital and taking holistic approach into the account for emancipation from this challenging disorder and finding the suitability of their indications, following procedures were intervened for one week as per the classics -

S.N.	Time duration	Name of the procedure	Details of the procedure
1.	9:00A.M. - 9:20 A.M.	<i>Ksheera Dhuma Nasya</i>	Here administration of vapours of decoction of Ayurvedic medicines viz. <i>Dashmool</i> (a compound medicine comprising coarse powder of roots of ten specific herbs), <i>Rasna</i> (<i>Pluchea lanceolatal</i>), <i>Bala</i> (<i>Sida cordifolia</i>) coupled with milk through nasal route after appropriate massage of the head, face, neck and shoulders with <i>Til Taila</i> (sesame oil) and it was followed by application of 2 drops of <i>KsheerabalaTaila</i> in each nostril.
2.	9:50 A.M.- 10:30 A.M)	<i>Karnapooran</i>	Gentle massage was done with lukewarm medicated oil around the right ear and pinna covering lateral portion of neck inferior to ear for 5 minutes. After this, heat was applied around ear with towel soaked in boiling water for 5 min. Later on, the lukewarm <i>Bilvadi Taila</i> drops were poured till the right ear canal was filled up to the base of concha. The root of the ear was gently massaged in order to potentiate the action of the drug. The medicated oil was retained in same position for 10 minutes. Afterwards the ear was cleaned with dry cotton mopping. The same procedure was repeated in the left ear.
3.	10:30 A.M.- 10:40 A.M	<i>Shiropichu</i>	A <i>KsheerabalaTaila</i> soaked cotton pad was kept over crown of head and it was wrapped up with a bandage cloth. The oil over crown of head was kept for a fixed duration as per the patient's compliance.
4.	2:00 PM-2:10 PM	<i>Matravasti</i> (Therapeutic enema)	Taking the age of the patient into the consideration, 27 ml of <i>KsheerabalaTaila</i> was introduced into the anal canal with glycerine syringe attached with rubber catheter, just after light food.

After the completion of procedures for a week, she was again instructed to continue the Ayurvedic medicines prescribed in first visit for 3 months. Along with this, she was also advised to continue the *Karnapooran* of 5 drops of *BilvadiTaila* twice a day alternately in the two ears for 20 minutes cautiously.

The parents of the patient observed an improvement in her hearing capacity on 24th August 2016. The medicines were continued for 2 more months and then Pure Tone Audiometry (PTA) was ordered. The PTA showed decrease in pure tone average from 90 dB to 52.5dB in right ear and from 87.5dB to 31.25dB in the left ear. Audiometric tests before and after therapy are depicted in figure 1 and figure 2 respectively. No any adverse drug reaction was reported during/after the therapy.

DISCUSSION

Sensorineural hearing loss (SNHL), a major hearing problem can be very well correlated with Badhira in Ayurveda. This is manifested due to the vitiation of two body humours namely Vata and Kapha. In this very case study, *Divya Vatari Churna*^[7] *Mahavatavidhvansa Rasa*^[8], *Brihat Vata Chintamani Rasa*^[9], *Ksheerabala Taila*^[10] and *Bilva Taila*^[11] were selected owing to their Vata-pacifying capability. This particular action may be credited to the ingredients present in these medicines. *Ekangveer Rasa*^[12], *Makaradhvaja Rasa*^[13] and *Rajat Bhasma*^[14] were included in the therapy owing to their well-known neuroprotective action. The role of *Sarivadi Vati*^[15] in *Badhira* cannot be overemphasized, hence it was also a part and parcel of the therapy.

The other interventions i.e. *Ksheera Dhuma Nasya*, *Shiropichu*, *Karnapooran*, *Matravasti* were also in accordance with the pathogenesis of the disease. Regarding Nasya it is explained in Astanga Samgraha that Nasa(nose) being the entry to Shira (head), the drug administered through nostril(in Nasya) reaches *Shringataka Marma*[a junctional place of *Netra*(eyes), *Srotra*(ears), *Kantha*(throat) etc], spreads in the *Murdha* (brain) and eliminates the morbid *Doshas* present above supraclavicular region.^[16] On the other hand, introduction of *Ksheera Dhuma* plays its nutritive role in the normalization of higher centre of the brain.

SNHL (Badhira) is primarily a disease of deranged nerve-conduction, which can be attributed to the vitiated *Vata Dosha*. The procedure of *Shiropichu* involves *Vatashamaka* oil application for a longer duration. Hence the procedure can be assumed to normalize the vitiated *Vata Dosha* leading to the diminution in the symptoms of the disease. The probable mode of action of procedure of *Karnapooran* with *BilvaTaila* may be assumed akin to that of the *Shiropichu*. The *Balya*, *Brimhan* and *Vata* pacifying virtues of *Matravasti* are enough to substantiate its usefulness in the management of SNHL (*Badhira*).

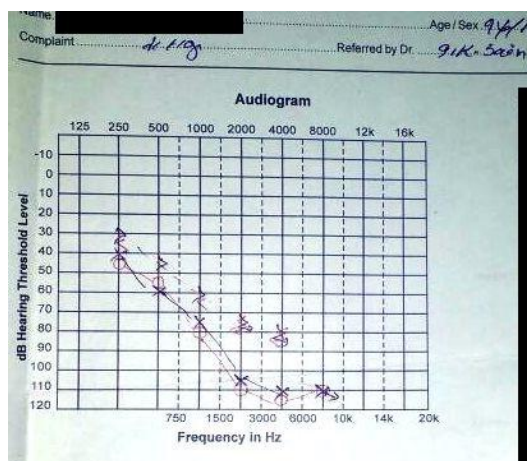


FIG.1- Audiometry Before Therapy.

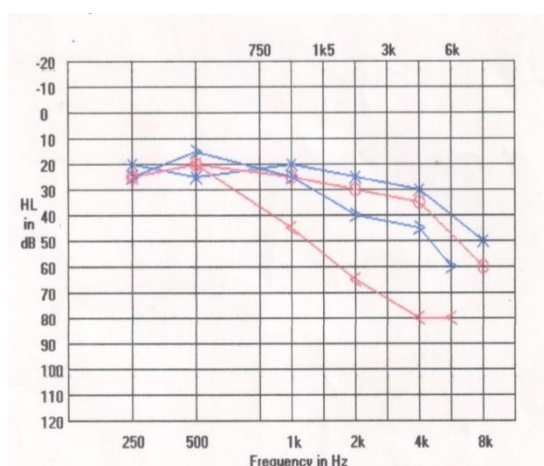


FIG. 2- Audiometry After Therapy.

CONCLUSION

The potential of Ayurvedic treatment can definitely be revealed/extracted in chronic diseases like neural disorders especially sensorineural hearing loss (SNHL). A case series /pilot study should be conducted in similar cases to validate this case report which may prevent/treat such cases and may ultimately play a role in the national prosperity.

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