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KEY WORDS: Badhirya, Karnapooran, Bala Taila Nasya, Matra vasti, Sensorineural hearing loss.

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 reporting 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 14-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 Bala Taila Nasya (administration of vapours of decoction of Ayurvedic medicines), Karnapooran (pouring of medicated oil into ears), Matravasti (Therapeutic enema) and those of orally given Ayurvedic herbomineral medicines are Indu Vati, Ekangveer Rasa, Brahmi Vati, Yashtimadhu Churna, Sarivadi Vati and Vacha Churna. The interventions resulted into a decrease of pure tone average from 61.6 dB in the right ear and from 65dB in the left ear.

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 conversions, 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 Shabdavahi 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 14years old girl was presented to the Shalakya OPD of Government Ayurvedic Hospital Patna on 31th October 2023 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 82/minutes, respiratory rate was 18/minutes, temperature was 97.2° F and BP was 110/80 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.

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 Indu Vati -1tab, Brahmi Vati – 1tab, Ekangveer Rasa – 1tab, Yashtimadhu churna – 1gm, Vacha Curna - 1gm, 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. Avipittikar Churna – 3gm at night.
4. Brahmi Ghrit – 5gm at night

On 31th October 2023, 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.	Bala Taila Nasya	Here administration of vapours of decoction of Ayurvedic medicines viz. kanthkari stem a specific herb with water through nasal route after appropriate massage of the head, face, neck and shoulders with Til Taila (sesame oil) and it was followed by application of 4-4 drops Bala Taila in each nostril.
2.	9:50 A.M.- 10:30 A.M)	Karnapooran with Bala Taila and Bilva Taila	Gentle massage was done with lukewarm medicated oil around the both 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 mixture of Bala Taila and Bilva Taila 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. After wards the ear was cleaned with dry cotton mopping. The same procedure was repeated in the left ear.
3.	2:00 PM- 2:10 PM	Matravasti (Therapeutic enema)	Taking the age of the patient into the consideration, 40ml of Erand Taila and Bala Taila in alternate days was introduced into the anal canal with glycerine syringe attached with rubber catheter, just after light food.

After the completion of procedures for 10 days, she was again instructed to continue the Ayurvedic medicines prescribed in first visit for 1.5 months. Along with this, she was also advised to continue the prescribed oral medicine.

The parents of the patient observed an improvement in her hearing capacity on 10th November 2023. 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 26.66 dB tin right ear and from 45dB 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 Badhirya in Ayurveda. This is manifested due to the vitiation of two body humours namely Vata and Kapha. In this very case study, Bala taila Nasya [7], Vacha Churna[8], Erand Taila [9] and Bilva Taila[10] were selected owing to their Vata-Kapha pacifying capability. This particular action may be credited to the ingredients present in these medicines. Ekangveer Rasa[11] were included in the therapy owing to their well- known neuroprotective action. The role of Sarivadi Vati[12] in Badhirya cannot be overemphasized, hence it was also a part and parcel of the therapy.

The other interventions i.e. Bala Taila Nasya, Bala and Bilva Taila Karnapooran, Erand Taila and Bala Taila 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 administrated 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.[13] On the other hand, introduction of Bala Taila Nasya plays its nutritive role in the normalization of higher centre of the brain

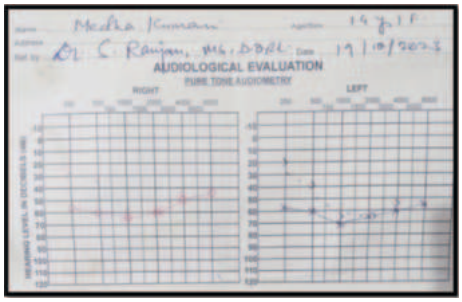

Fig. No. 1 – Audiometry Before Treatment

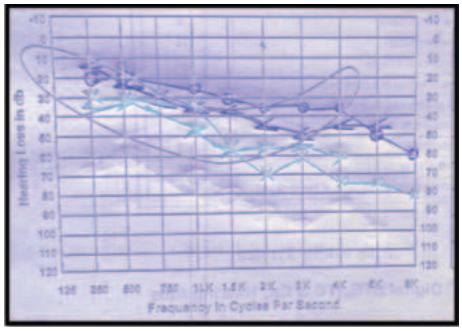

Fig. No. 2 – Audiometry After Treatment

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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