

A ROLE OF AYURVEDA IN THE MANAGEMENT OF KARNABADHIRYA (SENSORINEURAL DEAFNESS) - A CASE STUDY.

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<https://doi.org/10.46607/iamj3111122023>

(Published Online: December 2023)

Open Access

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Article Received: 13/11/2023 - Peer Reviewed: 30/11/2023 - Accepted for Publication: 13/12/2023.



ABSTRACT

Acharya Sushruta described *Badhirya* in 28 *Karnagata rogas* in *Shushrut Samhita*.^[1] *Karna Badhirya* is a medical problem that is considered a disability in all age groups of people. Hearing impairment among elderly people is a significant issue, and a person with hearing loss may be unable to hear. There is a rise in cases of hearing loss reported post-pandemic among the younger generation, too. Lack of communication makes the person frustrated, lonely, and depressed^[2]. In the present study, pre-and post-treatment hearing loss was assessed on an audiometry scale. A 45-year-old male came to OPD complaining of decreased hearing capacity and tiredness at the end of the day. Audiometry report showed moderate sensorineural hearing loss in the bilateral ear and treated with *Nasya* with *Madhukadi tail*⁽⁴⁾ 3 cycles, three cycles of *Madhukadi tail Karnapoorana*⁽⁵⁾, *Sarivadi vati*⁽⁶⁾ 250mg thrice a day with lukewarm water or milk for one month. Pre- and post-audiometry revealed that his hearing capacity improved from moderate to mild in both ears. Sensory neural hearing loss occurs when there is a problem in the sensory apparatus cochlea or the pathway of conduction of nerve impulses to the brain⁽³⁾. SNHL can be peripheral or central. It can be congenital or acquired. Decreased hearing capacity results from damage to hair cells, which can be managed by *Ayurveda* treatment *nasya*, *Karnapoorana* with *Vatashaman chikitsa*. With this study, we can treat this type of hearing loss without any surgical intervention and help them live their life better.

Keywords: *Karna badhirya*, *audiometry*, *Vatashaman*, *Nasya*, *Karnapoorana*, *Sensory hearing loss*.

INTRODUCTION

Sensorineural hearing impairment results from an organic disorder of the cochlea or the auditory nerve and connection in the brain stem. Normal hearing depends upon the integrity of the auditory pathway in the muscular metabolic endoergic system. Features of SNHL include difficulty in understanding speech, difficulty in understanding conversation, notably more than 1%, turning up the TV and radio volume, continually asking for repeating to others, muffled or ringing sounds in ear, and excessive tiredness at the end of the day.

The Etiology of sensory neural hearing loss is multifactorial, making the diagnosis challenging and unsolved. Pure tone audiometry is a mandatory investigation that is helpful to some extent.

SNHL is a physiological degradation and is considered permanent. Pharmacological treatment options are minimal and clinically unproven. Because of risk and expense, a 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, and amplification using hearing aids.

This condition can be correlated with the disease *Badhira* mentioned in *Sushruta Samhita*. As per *Sushruta Samhita*, *vata* gets lodged in *Shabdavaha sira* (voice conducting channels) owing to obstacles imposed (*Margavrodha*) by vitiated *kapha*. There is the manifestation of the disease called *Badhira*⁽⁷⁾. The person involved cannot hear the voice made in the surroundings, particularly and complex depending

Table 1

TUNNING FORK TEST	RT EAR	LT EAR
RINNES TEST	AC >> BC	AC >>BC
WEBERS TEST	NO LATERALIZATION	NO LATERALIZATION

METHODS AND MATERIAL

Nasya procedure

Before starting the therapy, *snehana* and *swedana* is done over the patient's head, neck, and face region .

After *poorvakarma*, the patient is asked to lie in bed with his hand and legs kept straight. His head is

maintained lower by the pillow below the neck. Then, the medicine is instilled into one nostril with a dropper, while the other kept closed. The exact process is carried out in another nostril also.

After the instillation of the medicine, the shoulder, neck, and face are gently massaged. The patient is on the intensity of vitiation of the particular body humor.

Samprapti of *Karna badhira* –*Vata* and *Kaphanubandha* *Yukta* *vayu* when obstructing the *shabdavaha srotas* (Auditory canal) or *Shabda Vaha sira* (Vessels), *Shabdavaha nadi* (Auditory nerve) causes hearing difficulty or incapability of hearing is called “*Karnabadhira*”⁸.

CASE REPORT

A 45-year-old male patient presented to *Shalakra* OPD suffering from typical symptoms of SNHL like trouble in understanding speech, turning up the television, continuously asking people to repeat themselves, and feeling tired at the end of the day. *Sharir Prakriti* of the patient was *kapha vataja*, *madhyam-kostha* (as per the basis of bowel habit), *Madhya Ambala* with good *Satwa*, psychological strength, and mild *Agnimandya*; He was working in a welding workshop from 4 to 5 years. There is no specific history of systemic disease. There is no significant family history. The patient didn't get any relief with modern medicine.

GENERAL EXAMINATION Pulse - 84/min

BP - 130/80 mm of hg, Resp -20/min, T- 97.2°F

LOCAL EXAMINATION

Otoscopy-

Ear- Auditory canal -Normal

Tympanic membrane- Dull without any discharge debris.

Nose- DNS towards the right side.

Throat- Normal

maintained lower by the pillow below the neck. Then, the medicine is instilled into one nostril with a dropper, while the other kept closed. The exact process is carried out in another nostril also.

After the instillation of the medicine, the shoulder, neck, and face are gently massaged. The patient is

asked to spit out secretions and medicine that reach his mouth.

KARNAPOORAN VIDHI (PROCEDURE)

The literal meaning of *Karnapooran* is filling the ear with lukewarm *Taila, Swaras, Sneha Dravya* Gomutra etc. *Karnapooran* comes under the external type of snehan, that is *Vicaharana*, where the *sneha* administered does not undergo the process of digestion in the gastrointestinal tract included in *Virechana sneha*.

Daily *Karnapooran* can prevent *Vata Roga* of *Karna*, including *Karnashool, Karnanaada, Badhirya*. The ear is categorized as a local route of drug administration, and drug administered is absorbed through the mucus membrane of the auditory canal.

Purva karma

- A person should be made to lie down on the lateral side, and hand of that side should be beneath the head and the other hand should be resting on the trunk of that side.
- Gentle massage should be the ear and pinna for a short time (approx 5-7). Massage should also cover the lateral portion of the neck inferior to the ear.

- After this, heat is applied around the ear with a towel soaked in boiling water by waving, touching, and pressing for some time (approx. 10 min).

Pradhan karma

- The medicated liquid (oil) should be heated in a water bath to make it lukewarm.
- The external auditory canal should be straightened by pulling the pinna backward and upward.
- The liquid (oil) should be poured in drops till the ear canal is filled up to base of concha.
- The root of ear should be gently massaged in order to potentiate the action of the drug.
- The medicated oil should be retained in some position for prescribed time limit.

Paschat karma

- The excess oil should be taken out of the external auditory canal by dry cotton.
- After retaining the medicated oil for the prescribed time, the ear should be cleaned with dry cotton mopping.

Table 2
AYURVEDIC MANAGEMENT

NO	TREATMENT	MEDICINE	MODE OF ADMINISTRATION	DURATION
1	NASYA	MADHUKADI TAILA	6-6 Drops in each nostril for 7 days in morning with 3 days interval for 3 cycles	21 DAYS
2	KARNAPOORANA	MADHUKADI TAILA	Approx. 24-26 drops for 7 days interval for 3 cycles.	21 DAYS
3	ORAL MEDICINE	SARIVADI VATI	2 vati of 250mg TID with lukewarm water after food	1 MONTH

Table 3
PATHYA – APATHYA⁽⁹⁾

PATHYA	APATHYA
<i>Avyayama</i> (don't do exercise)	<i>Danta kashtha</i> (Pricking teeth)
<i>Ashirah snana</i> ((Do not take head bath)	<i>Sirahsnan</i> (Head bath)
<i>Bramacharya</i> (Complete abstinence)	<i>Vyayam</i> (Exercise)
<i>Akathana</i> (less talking)	<i>Kanduyana</i> (entering of ear buds into ear)
<i>Mansarasa</i> (nonveg)	<i>Tushara</i> (Always in contact with cold water)
<i>Sneha yukta ahara samvahana</i> (fatty diet)	<i>Shoka</i> (Misery)
<i>Ghrut</i>	<i>Shrama</i> (Over exercise)
<i>Mrudu shaiya</i> (soft bed)	<i>Ruksha kshaaya</i> (Uneven bed)
	<i>Ruksha bhojana</i> (fatless diet)

Dugdha(milk) Lavana yukta bhojana sukhoshna parisheka	Vataprakopak ahar (Vata aggravating diet)
Swedan	
Virechan	
Basti	
Raktamokshan	
Godhum	
Mudga pulse	
Kukkut mansa	
Patola	
Shigru	

Content of medicines

Table 4

MADHUKADI TAILA -

<i>INGREDIENTS</i>		
<i>Mulethi</i>	<i>Dashmul(Agnimanth , Bilwa , Brihati, Syonaka ,Gambhari ,Patala ,Salaparni ,Prishniparni, Gokshura , Kantakari)</i>	<i>Daruharidra</i>
<i>Kadali Kanda</i>	<i>Sounf</i>	<i>Vacha</i>
<i>Kustha</i>	<i>Shigru</i>	<i>Rasanjan</i>
<i>Devdaru</i>	<i>Vidalavan</i>	<i>Sarjikshar</i>
<i>Yavakshar</i>	<i>Saindhav Churna</i>	<i>Tila Taila</i>

Sarivadi vati

<i>Sariva</i>	<i>Yastimadhu</i>	<i>Kushtha</i>	<i>Twak</i>
<i>Ela</i>	<i>Nagkeshar</i>	<i>Priyangu</i>	<i>Nilotpala</i>
<i>Lavang</i>	<i>Triphala</i>	<i>Abhrak bhasma</i>	<i>Loha bhasma</i>
<i>Bhringraj kwath</i>	<i>Arjun</i>	<i>Japa</i>	<i>Kakmachi</i>
<i>Gunjamool</i>			

RESULT

Improvement was observed in the hearing capacity of the patient in terms of objective and subjective criteria after taking treatment for one month. Post-audiometry was done, which showed a 15 Db shift in air conduction.

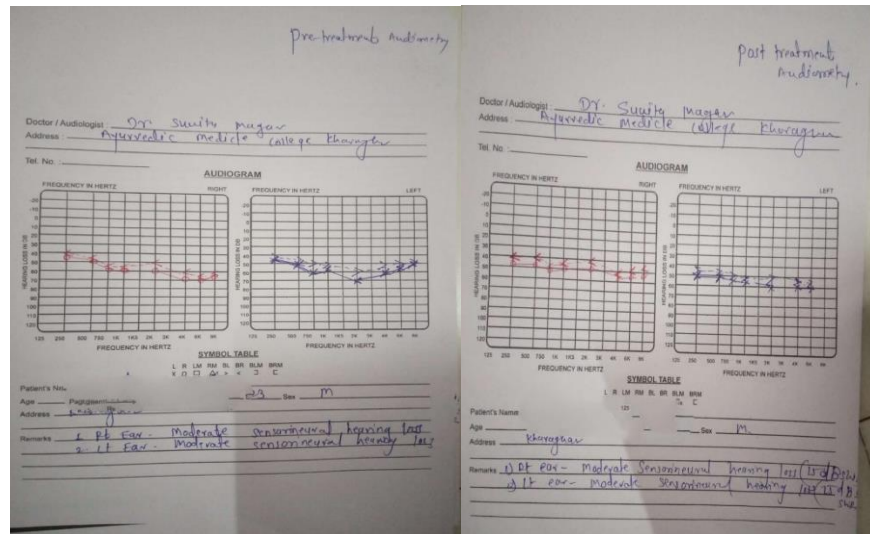
Table 5

Follow up finding.

Tuning fork test	1 st follow up	2 nd follow up	3 rd follow up
Rannie's test –RT Ear	AC>>BC	AC>>BC	AC>BC
Lt Ear	AC>>BC	AC>>BC	AC>BC
Weber's test	No lateralization	No lateralization	No lateralization

Table 6

Date	Pretreatment date	Post treatment date
Audiometry Report	RT EAR –Moderate sensorineural hearing loss LT EAR –Moderate sensorineural hearing loss	Mild to moderate hearing loss bilateral ear (15db) shift



Pretreatment audiometry

Post treatment audiometry

Therapeutic Intervention

Karnapooran –*Karnapooran* is a primary treatment mentioned in the Ayurveda literature. *Karnapooran* is filling the ear with medicated oil. *Madhuakdi tail* containing *Mulethi* with *madhur rasa* and *pit-tashamak*, *Dashamula* with *Vatshamak* and *Daruhaldi* with *Tikta rasa* and *Kaphapittashamak* properties, and *Kadali kanda* with *madhur* and *kash-ay rasa* and *Vatapittakar* properties. All these have *shodhan* property with this, they open channels of *Shravandrendriya*, and with *Snehan* property, they nourish it. *Nasya-Nasya karma* is described for *Urdhwajatrugata roga* because the nose is the gateway to drug administration in the case of *Urdhwajatrugata roga*. *Acharya* has recommended all efforts to strengthen *Panchendriya* restoring to *Nasya* with ***Madhukadi Taila***. *Madhuakadi taila* strengthens ears, eyes, nose, tongue, and throat. As per Ayurveda, there is a point in the forehead, right at the junction of eyebrows, called *Shringatak marma*. This point is connected with all sense organs that have *Tridosha* balancing properties.

Sarivadi vati: *Sarivadi vati* checks all types of ear diseases. It is an herbal mineral *Ayurvedic* formulation mentioned in *Bhaishajyaratnavali* in the management of *Karnaroga*. It pacifies doshas, which are responsible for the *samprapti* of *Karna badhīrya*.

Probable mode of action of Nasya

As *Nasa* is the portal of *Shiras*. The drug administered through the nose as *NASYA* reaches the brain and eliminates only the morbid *Doshas* responsible for producing the diseases. *Nasya* removes *Doshas*. Drug administered through the nostril comes the *Shrungatak marma* by *Nasasrota* spreads in *Murdha* (Brain), taking root of *Netra*, *Shrotra*, *Kantha*, and *Siramukhas* scrapes the morbid *Doshas* in the supra-clavicular region. The therapy cleanses and opens channels of the head, thereby improving the process of oxygenation (*prana*), which directly influences the function of the brain¹². Drug administered through the nose mainly acts on olfactory receptors in the superior concha. Effect at neuroendocrinal level peripheral olfactory nerves (chemoreceptor) connect with the limbic system, which control endocrinal secretions. It keeps the eyes, nose, and ears healthy.

Probable mode of action of Karnapooran

Karnapooaran is one of the types of *snehan*; it nourishes the tissues and cells. *Pravicharana*, its mode of accomplishment, can be understood as *sthanik snehana* and *sneha dravya* is used for it.

In *Purva karma*, a placid massage is done with luke-warm medicated oil around the ear and pinna for a short period (approx. 5-7 min). Massage also shelters the lateral portion of the neck to the ear. This causes a rise in blood circulation after heat is applied around

the ear with a towel sodden in boiling water by waving, poignant, and pressing for some (approx. 10 min). This causes vasodilation and, thus, a rise in permeability of capillaries. As an outcome, both abhyanga and swedana abridges more absorption of drugs. As the afferent efferent vasodilator nerves are banquet out on the superficial surface of the face, they obtain stimulation by fomentation and may raise flow to the brain. Inculcated medicine in the ear canal acquires fascinated by skin limiting external auditory meatus and tympanic membrane and spreads systemic blood flow. According to Ayurveda, drug contracts absorbed by Bhrajaka pitta are extant in the skin and spectacles, as are its effects on the body and local tissue. TIL TAILA has assets of Vata Shaman but does not aggravate Kapha. In this way, Karnapoorana eradicates the disease of the ear due to vitiation of vata dosha. In addition, Luke uses medicine, so vata is also eliminated by Ushna Guna. These properties do not have an advantageous effect on vata but also eliminate the Avaran of Kapha. As the medicine for Karnapoorana is made by the Snehapaka method, all fat-soluble active ingredients of drug get enclosed. Fat molecule active principle can be easily integrated through nerve ending. As combined effect of all these Karnapooran is useful in Karna badhirya.

DISCUSSION

The treatment adopted for *Badhirya* (hearing loss) in modern system of medicine has not been satisfactory. The “*Vatavyadhi chikitsa* “*siddhanta* is adopted as management for *Badhirya*, eg *Ghritapan* (consumption of medicated ghee),*Rasayanasevan* (rejuvenating drugs),*Nasya* (nasal drop), *Snehan* (oleation therapy) , *Swedan* (perspiration therapy), *Snehan virechan* (purgative therapy), *Karnapooran* (filling the ear with medicated oil), *Jaloukavacharan* (leech therapy) etc. *Karnapooran* and *Nasya* is most prescribed procedure in the management of *Badhirya*⁽⁹⁾. . *Madukadi tail nasya* scratches out the *kapha dosha* from *shira* and improves the function of *Indriya* (*Karnaindriya*) thereby cleaning the *Strotorodha* . *Madhukadi taila* was planned which pacifies the aggravated *Vata dosha* in the head and helps to nor-

malize the function of central nervous system and balancing the circulation of blood in the sense organs including ear also . *Karnapooran* is one of the basic treatments mentioned in *Ayurvedic* literature for all *karnarogas*. *Karnapooran* with *Madhuakdi taila* has *Vatashamak* property which makes nourishment of *siras* connected to *Shrungatak marma*. *Sarivadi vati* removes *Srotorodha* and does *Vatanulomana* .It is best *Rasayan dravya* of *Shrotrendriya vikara* .During period of treatment (1 month) we have not encountered any ADR related to *Nasya* , *Karnapooran* and oral medicine .There Result was satisfactory that his hearing was improved with 15 db. shift on Audiometry scale .Improvement seen from 50 db. to 35 db. On audiometry graph.

CONCLUSION

Implementing *Ayurvedic* treatment such as *nasya* with *Madhukadi taila tail* , *karnapooran* with *Madhukadi tail* in addition with systemic medicine like *sarivadi vati* along with making changes in lifestyle , such as following *pathya* and avoiding *apathya* , brought an improvement in the deceased state of sensory neural hearing loss. Thus, it is feasible and economically viable and in future more studies should be carried out on the present topic.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Latabai Dhayagude & Sunita Magar: A role of ayurveda in the management of karnabadhira (sensorineural deafness) - a case study. International Ayurvedic Medical Journal {online} 2023 {cited December 2023} Available from: http://www.iamj.in/posts/images/upload/3156_3162.pdf