

## AYURVEDIC MANAGEMENT OF OTOSCLEROSIS - A CASE REPORT

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**ABSTRACT**

Otosclerosis is primarily a disease of the bony labyrinth which produces effects upon the middle ear and inner ear functioning.<sup>[1]</sup> Otosclerosis is a term derived from oto-the ear and sclerosis-meaning abnormal hardening of body tissue. Abnormal remodeling of the bone disturbs the ability of sound to travel from the middle ear to the inner ear. The primary change is the formation of new spongy bone and chief secondary effect is ankylosis of foot plate of stapes, because of this reason a better term used by otologists is 'otospongiosis' which refers to the active phase of the disease characterized by presence of vascular space containing highly cellular fibrous tissue.<sup>[2]</sup>

**KEYWORDS:** Ayurveda, Otosclerosis, *kaphavatanubanda Bhadirya, Bhadirya.***INTRODUCTION**

In otosclerosis, abnormal remodeling disrupts the ability of sound to travel from the middle ear to the inner ear. Otosclerosis is most common in young adults, it is a problem which causes gradual hearing loss. Currently there is no effective treatment for otosclerosis, but there are many researches going on bone remodeling and could become potential therapy in future.

According to *Ayurveda* this disease can be clinically correlated to *Bhadirya*, *kaphavatahara* and *Asthiposhaka chikitsa* are the prime modalities that can be installed for otosclerosis. Clinical observation has shown its effectiveness in the management of *Bhadirya*.

**CASE REPORT**

A 28-year-old female was apparently healthy 1 year back gradually developed pain in both the ears(Left>Right), visited nearby clinic advised with medications (details unknown) and got relief after few days patient developed reduced hearing and ringing sound more in left ear visited another nearby hospital and advised with investigations, and diagnosed as otosclerosis having heard the surgery and hearing aids are the only solution to her problem, since patient was apprehensive about surgery, patient approached with the complaints of reduced hearing and tinnitus in left ear visited *Shalaky tantra* OPD, SDMIAH, for *Ayurveda* treatment to avoid the surgery.

**Past history** - No relevant history was found.**Family history** - No family history was found.**Personal History**

- Food- Vegetarian
- Appetite- Normal
- Bowel- Regular
- Micturition- Normal
- Sleeps-sound sleep

**Asta sthana Pariksha**

• <i>Nadi: Kapha</i>	<i>Sparsha: Prakruta</i>
• <i>Mootra: 5-6 times/day</i>	<i>Shabdha: vikrutha</i>
• <i>Mala: Regular</i>	<i>Akruthi: Prakruta</i>
• <i>Drik: Vikruta(Myopic)</i>	<i>Jihva: Alipta</i>

**Examination of both Ear by Torch light and otoscope we found**

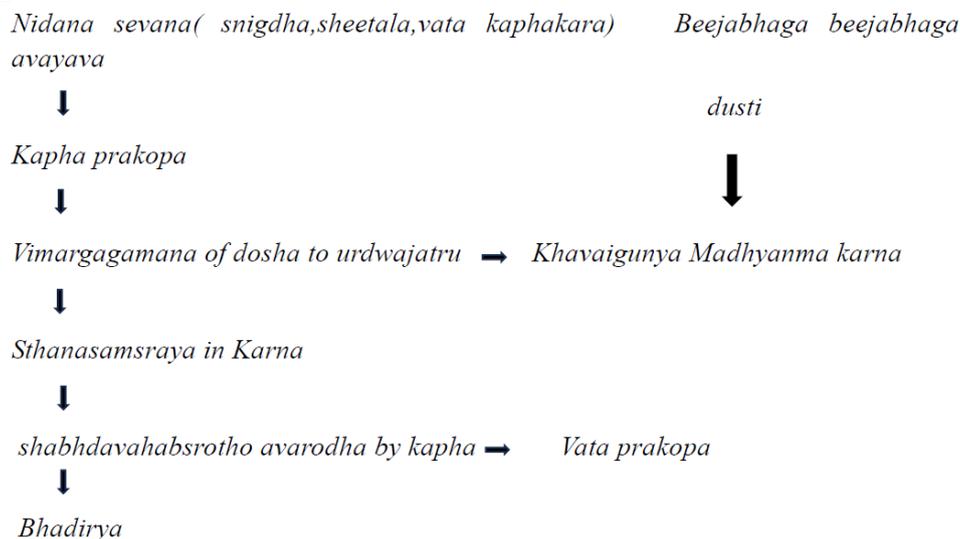
Examination of Pinna	On inspection- size, shape, position- normal swelling- Absent ulcer-Absent scar- Not seen fistula-Absent On palpation- no tenderness
Examination of EAC	Without speculum- size of meatus was normal contents of lumen-no discharge, granulations, polyp, foreign body were not seen. Swelling -Absent With speculum- Normal
Examination of Tympanic membrane	Color- pearly white Cone of light- Visible, triangular in shape Thickness and transparency- Normal and Transparent Perforation- Not seen Mobility- Mobile Position- inclined downwards, medially
Examination of middle ear	Since the tympanic membrane is intact middle ear is not appreciated.
Examination of mastoid	Inspection- no scar, swelling or fistula seen Palpation- no palpable tenderness
Examination of Eustachian tube	Normal, patent
<b>Functional examination</b>	
Auditory function	Rinne's test – Positive AC > BC(RE) Negative BC > AC (LE) Webbers test –Lateralized to left ear ABC-Same as examiner
Vestibular function	Spontaneous nystagmus- position

**INVESTIGATIONS****CT- Temporal bones on 16/05/2022**

**Impression-** CT features suggest the possibility of bilateral Otosclerosis (Right- Grade I/Fenestral type mixed spongiotic and sclerotic phases; Left – Grade 2A/Retroscleral type with involvement of basal turn of cochlea).

**ROGA PARIKSHA****NIDANA<sup>[3]</sup>**

*Vata kapha vridhikara ahara vihara*  
*Snigdha ahara, sheetala ahara, sheeta vayu sevana*  
*Beeja bhaga beeja bhaga avayava ??*

**SAMPRAPTHI**

**SAMPRAPATHI GHATAKA**

- *Dosha: kapha vata*
- *Dushya: Rasa, Meda, Asthi*
- *Agni: vishama agni*
- *Srotas: shabdavaha*
- *Srotodusti prakara: Sanga*
- *Vyaktha Sthana: Karna*
- *Sanchara Sthana: karna*
- *Adhistana: bahya & madhyama Karna*
- *Rogamarga: Madhyama*
- *Sadyasadhyata: kruchra Sadya*
- *Pratyama lakshana: uccha shruthi, Karna kshweda*

**LAKSHANA<sup>[4]</sup>**

स एव शब्दानुवहा यदा सिराः कफानुयातो व्यनुसृत्य तिष्ठति ।  
तदा नरस्याप्रतिकारसेविनो भवेत्तु बाधिर्यमसंशयं खलु ॥Su.U  
t.20/8॥  
Decreased hearing.

**SADHYASADHYATA**

*Kruchra Sadya*

**CHIKITSA<sup>[5]</sup>**

सामान्यं कर्णरोगेषु घृतपानं रसायनम् ।

अव्यायामोऽशिरः स्नानं ब्रह्मचर्यमकत्थनम् ॥ सु. उ. २१ /३ ॥

कर्णशूले प्रणादे च बाधिर्यक्ष्वेडयोरपि ।

चतुर्णामपि रोगाणां सामान्यं भेषजं विदुः ॥सु. उ. २१/४॥

स्निग्धं वातहरैः स्वेदैनरं स्नेहविरचितम् ।

नाडीस्वेदैरुपचरेत्पिण्डस्वेदैस्तथैव च ॥ सु. उ. २१/५॥

On the basis of similar clinical presentation of otosclerosis with that of *Badhira*, Procedures which are done during the line of treatment for 7 days are,

1. *Karnapoorana kshara taila*
2. *Nasya with Anu taila*
3. *Dhoopana with haridra*
4. *Matra basti with Brihath saindhava taila 60ml*

Internal medication advised during and after the treatment are

1. *Lakshadi guggulu 1-1-1 after food*
2. *Shiva gulika 1-0-1 after food*
3. *Poothikaranjasava 15 ml three times before food with dilution*
4. *Varunadi kashaya 15 ml three times before food with dilution*
5. *Ksheera bala cap 1-1-1 before food*
6. *Sukumara rasa 1-0-1 before food*

**RESULTS**

After 3months of treatment patient came up with repeated audiometry and reduced symptoms like hearing loss and tinnitus. changes can be appreciated in the reports which depicts the patient's words.

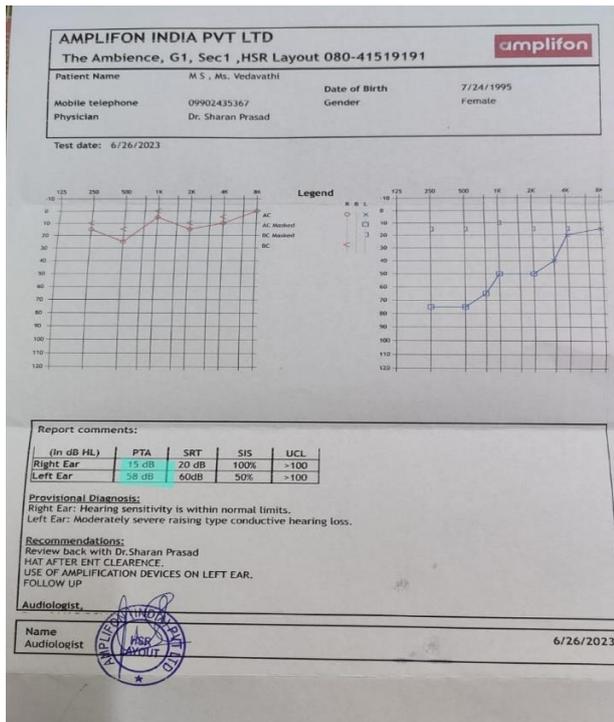


FIG. 1: Audiometry Before Treatment

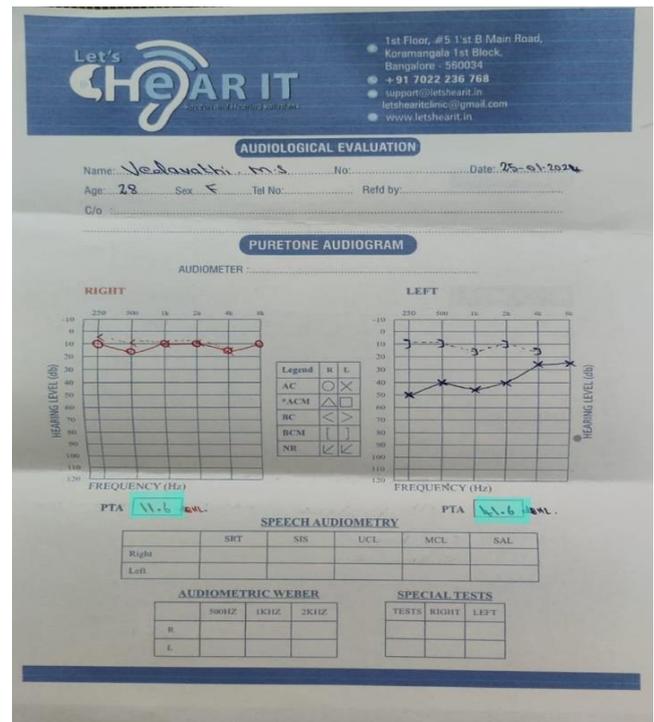


Fig. 2: Audiometry After Treatment

**DISCUSSION AND CONCLUSION**

The potential of Ayurvedic procedures and medicines have not been explored yet. There is extensive need of the same to improve the quality of life of the patients

suffering from many disorders like otosclerosis. Alternative therapy must be tried in recalcitrant disorders the treatment for which are not promising in the mainstream healing system.

Due to vitiation of *Vata* and *Kapha dosha* otosclerosis can be correlated with *Badhirya*. The procedure like *Nasya*, *Karnapoorana* and *Matrabasti* all are very much capable of alleviating *Vata* and *Kapha Dosha*. The very process of *Dosha* alleviation was further enhanced by the medicines i.e. *Lakshadi guggulu*, *Shiva gulika*, *Poothikaranjasava*, *Varunadi kashaya Ksheera bala cap*, *Sukumara rasa*. The patient was advised to avoid noisy environment and avoid water entry into ear, the properties of the *shamanaushadis* prescribed has *kapha vilayana* in nature due to its *vatanashaka* property as well as antioxidant properties. Also acts as anti-inflammatory reducing the degenerative conditions of ossicular bone and nerve. *Lakshadi guggulu* having contents which acts as osteo protective and helps in healing conditions of ossicular bones.

Due to the properties of drugs and the actions of procedures patient found improvement in subjective parameter i.e Tinnitus and objective parameter like Puretone audiometry.

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