



# CRITICAL ANALYSIS OF SAMANYA KARNAROGA NIDANA WSRT BADHIRYA

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## ABSTRACT

*Badhira is one among the 28 karnarogas described in classics. Based on dosa we can classify it into 2 types like vata and vata kaphaja. Hearing loss is the impairment in hearing it can be partial or complete. Defect at any level from sound transduction to interpretation can cause hearing loss. Modern science classify hearing loss as three types conductive hearing loss, Sensory neural hearing loss and mixed hearing loss. Samanya Karna roganidanas include Avasyaya, Jalakrida, Karnakandu, Mithya yoga of sastra & shabda, Pratisyaya by different acharyas. Here is an attempt made to think how the Samanya Karna roganidanas are leading to Badhira (hearing loss).*

**KEY WORDS:** Badhira, Hearing loss, conductive hearing loss, Sensory neural hearing loss, Mixed hearing loss.

## INTRODUCTION

Sense organs are our link to the external world. They collect the information from outside send to brain and helps us to respond accordingly. Any problem arising in this pathway makes it difficult to communicate to the outside world which can even leads to mental trauma. one among the main mode of communication is speech. Speech is directly connected with hearing. According to Ayurveda, Shrotrendriya originates from Akasha Mahabhoota, Shabda carried by vata comes in contact with Shrotrendriya Adhishthana (Karna) and transmitted through Indriya to Shravana Buddhi which is responsible for perception of sound, so Vata plays important role in normal hearing procedure.

*Badhira* has been described in classics as hearing loss. *Sushruta* opines that vitiated *vata* along with *kapha* residing in *Shabdanuvahasira* leads to *Badhira*<sup>1</sup>. *Acharya Dalhana* comment that along with *vata* & *kapha* *Raktha* & *Pitta* also plays a major role in developing *Badhira*<sup>2</sup>. *Vagbhatta* opines *Vata* associated with *Kapha* or *Karnanada* if neglected, gives rise to hearing of loud sounds only or hearing with difficulty and gradually leads to deafness<sup>3</sup>.

Hearing loss is the impairment in hearing<sup>4</sup>. It can be unilateral or bilateral. Disabling hearing loss refers to hearing loss more than 40 decibels (dB) in the better hearing ear in adults and a hearing loss more than 30 dB in the better hearing ear in children<sup>5</sup>.

## NIDANA & CLASSIFICATION

*Samanya Karnaroga nidanas* told in classics are *Avasyaya*, *Pratisyaya*, *Jalakreeda*, *Karnakandu*, *Mithyayoga of sastra*, *Mithyayoga of Shabda*. Hearing loss is of three types a) Conductive hearing loss b) sensory neural hearing loss c) mixed hearing loss. Any diseases or process interfering with the conduction of sound from external ear to the stapediovestibular joint leads to CHL<sup>6</sup>. Its common aetiology includes a) EAC- wax, foreign bodies, otitis externa, stenosis, osteomas b) TM perforations c) ossicles -fixation & discontinuity d) Middle ear- ET dysfunction, otitis media with effusion, adhesive otitis media, hemotympanum, cholesteatoma, tumours<sup>7</sup>. SNHL results from lesions of the cochlea or VIII<sup>th</sup> nerve & its central connections<sup>8</sup>. Causes may be congenital various infections, trauma, ototoxic drugs, systemic diseases. In mixed elements of both CHL & SNHL are seen<sup>9</sup>. In *Meniere's* disease there will be vertigo, tinnitus & pulsating hearing loss<sup>10</sup>. *Presbycusis* is a situation where SNHL type of hearing loss is seen as a result of physiological changes due to ageing. Noise trauma also leads to hearing loss<sup>11</sup>.

## AVASYAYA

It is the excessive exposure to cold or humid climate, early morning exposure to mist in present era we can consider excess usage of air conditioner also. Since the *kala* is *seetha* *gunaprominent* it leads to the vitiation of *vata* and *kapha* in the body. Due to



humidity ear canal will be staying as moist thus continuous exposure to humid climate will leads to otomycosis in many cases otomycosis will always present with otalgia, aural fullness and CHL type of hearing loss. High humidity is thought to trigger chemical and electrical changes in the brain and irritate nerves. In a recent study, high humidity was found to be positively associated with aural fullness, hearing loss, and increased odds of episodes of Meniere's disease<sup>12</sup>

#### **PRATISYAYA**

The *kapha dosha* will produce avarana to vata or obstructs the path of vata leading to hearing loss. It can be compared to upper respiratory tract infection. URTI will causes acute tubal blockage which results in absorption of gases in middle ear, thus a negative pressure is created in the middle ear which leads to retraction of tympanic membrane. Further increase in negative pressure causes collection of transudates, exudates & even haemorrhage. Prolonged tubal blockage causes otitis media with effusion leading to perforation & development of retraction pockets or cholesteatoma and finally erosion of incudostapedial joint occurs. These all will end up in hearing loss<sup>13</sup>.

#### **JALAKREEDA**

*Jalakrida* includes spending time in water like swimming, bathing in rivers, water falls or even in shower. This water may directly enter the ear canal and leads to infection or may cause dosavitiation by its snigdha, sitha guna which later on leads to various ear disorders like *karna shola*, *karna srava*, *Ati yoga in jala* can lead to *kaphaprapakopa* or *avarana* to other *dosas* by *kapha* as well as vata prakopa with these all things it will ultimately ends in otitis externa, otitis media, various types of ear discharges, otomycosis etc. During underwater diving eustachian tube won't be able to maintain the middle ear pressure at ambient atmospheric level. This disequilibrium is middle ear Barotrauma. sudden negative pressure in middle ear causes retraction of tympanic membrane, hyperaemia, engorgement of vessels and haemorrhages. Sometimes there may be rupture of labyrinthine membranes with vertigo and SNHL<sup>14</sup>.

#### **KARNAKANDU**

itching in ear occurs when *atisanchaya* of *kapha* occurs in *karna*. *Kapha* is having *Sthira, Manda Guna* by it causes *vataavarodha & rogas* by increasing *Khamala* which can be considered as wax<sup>15</sup>. Due to itching person will start fingering of ear, put buds or some pointed or blunt instruments to ear for itching. This may cause injury to EAC and also pushes the wax deep inside and will definitely lead to conductive type of hearing loss associated with other ear disorders. Improper way of aural toileting and excess cleaning of ears creates a vicious cycle of increased cerumen production causing ear-fullness, swelling, tinnitus, hearing loss etc<sup>16</sup>.

#### **MITHYA YOGA OF SASTRA**

Improper usage of sastra can cause direct injury to ear likewise unsterilized instruments results in infection which in turn vitiates raktha, *pitta* or *vata dosas*. Many have a habit of fingering of ear, inserting things like pin, pencil etc.. to the ear canal for removing wax and also if they have itching etc. It can cause kshatha in EAC, deep penetration can perforate the TM & can cause injury to ear ossicles. These unsterilized things can lead to development of otitis externa. Wide usage of buds for removing wax is in practise but it doesn't remove the wax properly instead it is pushing the wax to deep inside which in turn leading to tinnitus, CHL. So by these improper instrumentation finally ends up in *karnapaka*, *karnapratinaha* which will gradually ends up in *bhadhirya*. In electrocochleography (used to cochlear function) a tympanic needle electrode is passed through ear drum, causing perforation of membrane which will result in CHL<sup>17</sup>.

#### **MITHYA YOGA OF SABDHA**

It the wrong indulgence of sense organ of hearing which results in *Vata prakopa*. The vitiated *Vata* residing in *shadavahasrotas* causes *Bhadhirya*. It can be related to hearing loss due to noise trauma. Acoustic trauma is caused by exposure to excessive intense sound for a single time eg. Bomb explosion, powerful crackers which results in permanent hearing loss due to damage to outer hair cells, organ of corti, Reissner's membrane, tympanic membrane and ossicular chain<sup>18</sup>. Chronic exposure to less intense sound leads to noise induced hearing loss which can be temporary or permanent threshold shift. In temporary threshold shift there will be a recovery within few minutes to few hours. In permanent there will be no revert<sup>19</sup>. National Institute of Deafness and Other Communication Disorders have estimated that 15% of present population has got hearing loss due to exposure to loud noise and that may be noise at work, leisure activity or use of mobile phone.

#### **DISCUSSION & CONCLUSION**

While analysing the *karnaroganidana* in classics it can be concluded that all the *nidanans* are mainly causing the vitiation of vata or kapha. When there is disturbance in *Vata Dosha*, sound is not conveyed from ear to brain. In some cases vitiated *Kapha* obstructs the *Vata* pathway because of which *Vata* fails to conduct the sound waves. Therefore the hearing ability of one goes on deteriorating gradually and can be lost completely. *Badhirya* is produced by deranged *vata* or *vatakapha*, by obstructing the



*shabdavahasira*, neglecting *karna nada*. In CHL there is *kaphanubandha* it is mainly caused by wax, otitis media, cholesteatoma etc., SNHL is purely *vatika* & in mixed there is *vatakaphanubandha*.

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