

AN EXORDEUM ON EVALUATIVE THINKING OF KARNAROGA NIDANA

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ABSTRACT

Karna is most important sense organ, mainly used for hearing as well as balancing. It is one among the nine *bahirmukha srotas* and important anatomical structure. Acharya Sushruta has mentioned about 28 *karna rogas*^[1] and common etiology is explained which can be correlated with modern time's etiological factors that causes ear diseases. The way people have adopted modern lifestyle and different practices and behavioural choices have increased health risks, in the same way majority of ear disorders occurs due to inappropriate habits. As *Ayurveda* says prevention is better than cure it also helps in understanding the causative factors according to modern lifestyle and ways to prevent it. Hence an attempt has been made to critically analyse the *nidanas* of *karna roga* and to explore how modern lifestyle causes ear pathologies.

KEYWORDS: *Ayurveda, Karna roga nidana, Shalaky, Karna.*

INTRODUCTION

Karna is one among the *panchendriya* and is produced by *Akasha* and *Vayu Mahabhuta* situated in *Urdhvajatru*, which is responsible for perception of sound. Acharya Madhava has clearly explained the location of *Shrotrendriyaas* the invisible part which is covered externally by auricle that can be understood as inner ear. As *Shrotrendriya* is predominantly composed of *Akasha* and *Vayu Mahabhutas* and so, *Vata dosha* is responsible for hearing.

Nidana defines the causative factors of disease. The word '*Nidana*' is used in two different contexts i.e., etiological factors and second is diagnosis of diseases. *Nidana* gives an indication towards the multiple aspects causing a disorder- E.g. If the patient is having *prathishyaya* and has a history of long exposure to cold weather, we can speculate that the disease is a chronic one and is stubborn (depending on the periodicity).

Knowledge of *Nidana* will help in planning specific treatment. In each case, the treatment will differ and will depend on the cause. E.g. If *Pitta* is vitiated by *Ushna guna* (hot quality), the treatment and medicines should be antagonistic to *ushna* i.e. *sheeta upashaya* and *chikitsa* (comforts and treatments predominant in cold potency) should be preferred.

Knowledge of *Nidana* helps in rectifying the causative factors causing the disease- '*Sankshapatana Kriya Yogo Nidana Parivarjanam*'.^[2] The best and simplest form of the treatment is avoiding the causative factors, which are responsible for causation of disease, and it is the primary step to prevent further pathogenesis. The understanding of *Nidana* helps a physician to counsel the patient to keep away the factors, foods and activities which are contradictory to them. It will not only aid in framing a right treatment protocol, but it will also help in designing a good diet and lifestyle protocol where in many disorders can be avoided while following the wholesome and good parts of life.

<i>Nidana</i>	<i>Ashtanga Hridaya</i> ^[3]	<i>Ashtang Sangraha</i> ^[4]	<i>Yogarathnakara</i> ^[5]
<i>Avashyaya</i>	-	-	+
<i>Jalakrida</i>	+	+	+
<i>Karnakandooyana</i>	+	+	+
<i>Mithya shastrasya</i>	-	-	+
<i>Mithyayogena shabdasya</i>	+	+	-
<i>Prathishyaya</i>	+	+	-

MATERIAL AND METHODS

Classical texts of Ayurveda and other contemporary texts and articles are used for reference regarding the nidanas of Karna roga. These information are compiled together for an in-depth and better understanding.

AVASHYAYA

Excessive cold humid weather is *Avashyaya*. Especially during winter season, it causes vitiation of both *Vata* and *Kapha*. Outer ears are made up of cartilage predominantly, meaning that the ears lack significant insulation from fat or muscle, unlike other parts of our body. The lack of protective layers means that ears are more sensitive to the cold and are often the first parts of your body to respond to frigid temperatures.^[6]

Winter temperatures can cause dry skin; they can also harden ear wax. A build-up of hardened earwax blocks sound waves from reaching the inner ear, reducing hearing. Hardened earwax can also exacerbate earaches and headaches but will likely clear up once temperatures start rising again.

After *nidana sevana*, ear which is already vitiated by *Vatadi* doshas leads to increased *kleda bhava* of *mamsa* and *Rakta* which facilitates growth of *krimi*, which causes *karnashoola*. *Avashyaya* can cause *krimikarna*, which can be assessed accordingly with symptoms of otomycosis and *karnashoola* is one among the presenting symptoms in otomycosis.

In present era intake of cold items, continuous use of air conditioner and early morning exposure to the mist and frequent Surfer's ear can face these issues as temperature drops or increased mist in environment leads to high chance of developing ringing sound or hearing loss, one of the primary causes for hearing loss in cold weather known as Extosis.^[7]

JALA KRIDA

Jala krida includes swimming underwater, diving, bathing in the river or sea. They are *sheeta* in *guna* leading to *kapha* vitiation, spending more time in water leads to *vata prakopa*. Ear barotrauma is a type of ear damage. It is caused by pressure differences between the inside of the ear and the outside of the ear. Middle ear pressure values ranging from +50 daPa to -200 daPa in children and +50 daPa to -50 daPa for adults.^[8] It can cause pain and sometimes permanent reduced audibility and hearing loss.

For hearing to work normally, the pressure inside the middle ear must match the air pressure in environment. If the external pressure is greater or lesser than the middle ear pressure, the eustachian tube should open. This equalizes the pressure between the middle ear and the outside. Sometimes the eustachian tube can't open normally when there are changes in pressure and causes retraction of tympanic membrane, hyperaemia, engorgement of vessels and haemorrhages.

When high pressure air is forced into middle ear space it causes Rapid outward displacement of stapes and inward displacement of round window membrane, along with disruption of Reissner's membrane and Basilar membrane can also occur due to high pressure wave.

Similarly, in bathing or swimming, presence of moisture, humidity and water in ear canal allows infection to grow as the protective lining i.e., cerumen gets removed and increase in pH takes place.

KARNAKANDOOYANA

By *sevana* of *kaphakara nidana* accumulation of *kapha* occurs in ear canal and produces severe itching sensation and inflammation.

Continuous itching can also cause *Karna vidradi*, if the examination of ears does not reveal any significant clinical findings it can be related to the number of causes below.

- For some people, certain foods can trigger reactions such as itchy ears.
- For people with sensitivity to environmental elements like pollen, certain times of the year can trigger a response from the immune system, sometimes causing itchy ears.
- Materials in earphones, soaps, shampoos, makeup, and even some metals in earrings can all trigger itchy ears.
- Particularly in the case of a cold, nasal congestion and stagnation of mucus can lead to increased irritation in the nose, ears and throat.
- Stress can be a driver of psychosomatic itching, related to increased reactivity of the body to stressful conditions.
- Some drugs, including antidepressants, local anaesthetics and estrogen progestogens can cause widespread itching as a side effect.

Sometimes due to scratching of ear causes abrasions resulting in swollen and tender skin leading to accumulation of debris or pathogens. Ear pain and purulent discharge also occurs and if further neglected it can lead to infection of the ear.

MITHYAYOGENA SHASTRASYA

In children improper *Karna vyadhana samskara* leads to inflammation of local area along with pain. Improper piercing causes injury to *siras* like *Kalika*, *marmarika*, *lohithika*, where injury to *lohithika* causes *Manyastambha*, *Apathanaka*, *Shiro abhigatha*, *karna shola*. If abnormal growth takes place at pierced region it leads to keloid and then it might cause itching, pain, cosmetic deformity which leads to psychological stress in patient.

To remove impacted wax, excessive and unwise use of cotton buds by many people causes discomfort, vertigo and conductive hearing loss. Self-cleaning of ear with sharp instruments like hair pins causes epithelial injury

in external auditory canal or perforation of tympanic membrane that leads to otitis externa or middle ear infections.

PRATHISHYAYA

Prathishyaya occurs by *Vegasandharana*, *Ajeerna*, *Atibhashya*, *Raja*, *Rituvashmya*, *Prajagara*, *Maithuna*, *Avashyaya*, *Dhuma* etc. These factors lead to aggravation of *Vatadosha* and other *doshas* individually or collectively. Condition like *Apeenasa* and *Bhadirya* may occur if *Prathishyaya* is not treated properly or ignored.

With the prevalence of 10 to 30% of Rhinitis, Allergic Rhinitis is most common allergic disorder^[9], because of the close anatomical relationship between Eustachian tube and Nasopharynx, Allergic disorders such as Allergic Rhinitis causes Eustachian tube dysfunction by inflammation and swelling. In Nasal mucosa of young children with the chronic otitis media, chronic or recurrent OME, raised level of eosinophils, basophils and histamines have been found, which is associated with Allergic Rhinitis

MITHYAYOGENA SHABDASYA

By *mithyagoga* of *shabda grahana*, vitiated *dosha* lodges in *Shabdavaha Srotas* which is attributed as prime etiological factor.

Loud noise is particularly harmful to the inner ear (cochlea), one-time exposure to extreme loud sound or listening to loud sound for long time can cause hearing loss. Listening to loud noise for long time can overwork hair cells which also lead to death of hair cells.

Additional to damaging hair cells, noise can also damage the auditory nerve that carries stimuli. Noise induced hearing loss can be immediate or it can take a long time to be noticeable or it can be temporary or permanent.

There are three key factors that affect whether and by how much a sound will damage your hearing:

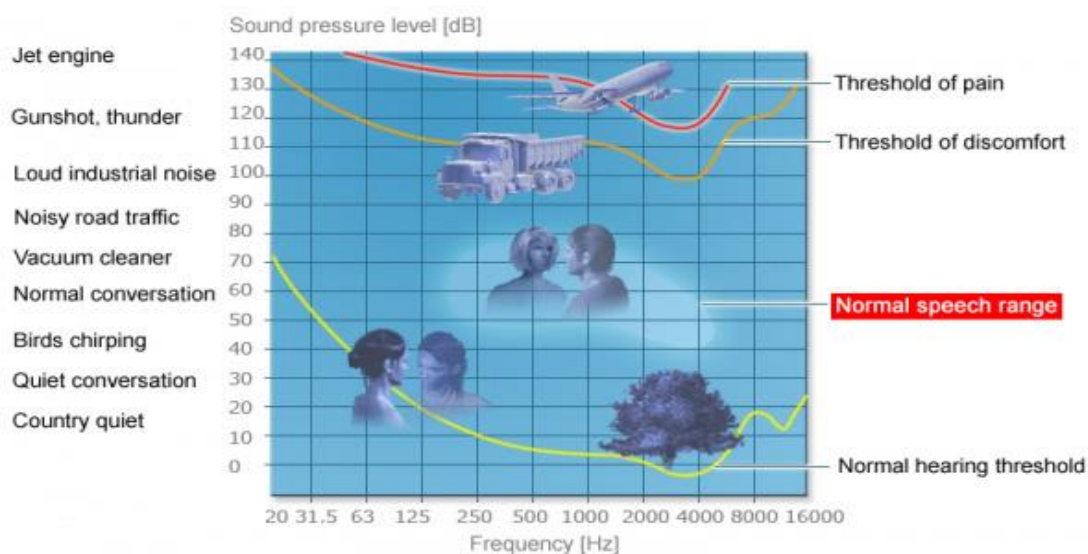
1. Decibel level: How loud the sound is- above 85 Dba.^[10]
2. Distance: How close you are to the source of the sound? One gunshot may not seem like enough to do damage. But when shot without hearing protection, a single gunshot can be enough to cause permanent hearing damage. A gunshot can reach levels as high as 140-190 decibels (dB), depending on the calibre.
3. Time: The length of time you are exposed to the sound- more than 8 hours at a time There will be loss of hearing gradually, however, from sounds that aren't as loud but exposed repeatedly for long periods.

Some examples of noisy activities that may damage our hearing are:

- Listening to loud music through headphones, at a concert, or while you're playing an instrument.
- Going to the movies in theatres or cranking up the volume on the TV at home.
- Going to sporting events attended by large, noisy crowds.
- Going to fireworks shows.
- Working with loud power tools.

The following list shows examples of the volume of familiar noises. Most people perceive a 10-decibel increase in volume to be "twice as loud."

- Quiet countryside: 20 dB
- Quiet conversation: 40 dB
- Normal conversation: 60 dB
- Traffic: 80 dB
- Industrial noise: 100 dB
- Very loud music, for example at a rock concert or a nightclub: 120 dB
- Nearby thunder: 120 dB
- Jet engine: 140 dB



Sounds louder than 130 dB can cause acute hearing loss.

Pathya and Apathya Ahara and Vihara in Ear Disorders^[11]

- Pathya Ahara - Godhuma, Shali, Mudga, Yava, Puranaghrata, Patola, Shigru, Rasayana dravyas
- Pathya Vihara - Sweda, Virechana, Vamana, Nasya, Brahmacharyapalana, Alapbhashna
- Apathya Ahara - Kaphakara and Guru Aharas
- Apathya Vihara - Shirasnana, Vyayama Kandooyana

CONCLUSION

Acharya Yogaratnakara and Vagbhata have described common etiological factors of *Karna Rogas* like swimming, picking or probing the external auditory canal, improper instrumentation during the examination and treatment, hearing (high frequency) loud sounds, injury to head. For example in today's fast moving life, human has become dependent on technology and gadgets which has direct as well as indirect impact on our health. The prolonged use of headphones and exposure to loud noise causes many ear diseases. After continuous practice of *nidana* it causes *poorvarooopa* first, therefore precautions should be taken before it manifests into *roopa* and *upadrava* stage. So, one should have knowledge about the causative factors and their treatment, and accordingly one should install proper *pathya*, *dinacharya* and *rithucharya* to keep body healthy and be disease free which is applicable to *Karna* also.

REFERENCES

1. Trikamji Y. Editor, Sushrutha samhitha, Nibhanda sangraha commentary by Dalhana, Reprint edition, Choukamba Orientalia, 2021; 20(5): 643.
2. Trikamji Y, Editor, Sushrutha samhitha, Nibhanda sangraha commentary by Dalhana, Reprint edition, Choukamba Orientalia, 2021; 1(25): 596.
3. Paradkar.H. Editor, Ashtanga Hridaya by Vagbhata with Sarvanga sundara and Ayurveda rasayana commentary, Krishnadas Ayurveda academy, 17(2): 634.
4. Sharma S. Editor, Ashtanga Sangraha by Vriddha Vagbhata with Shashilekha commentary, Banaras Ayurveda series, 21(2): 730.
5. Tripati I. Yogarathnakara, Vaidyaprabha Hindi commentary, Chowkamba krishnadas Academy, 1: 727.
6. Dr. Dewsnup, Hearing loss how the ear works, Happy ears hearing centre, January 19, 2021.
7. Maqbool Mohammed, Text book of Ear, Nose, and Throat diseases, 12TH Edition, 2013.
8. Martines F, Dispenza F, Sireci F, Gallina S, Salvago P. Eustachian Tube Function Assessment after Radiofrequency Turbinate Reduction in Atopic and Non-Atopic Patients. *Int J Environ Res Public Health*, 2021; 18(3): 881. Published 2021 Jan 20. doi:10.3390/ijerph18030881
9. Nemati S, Jafari Shakib R, Shakiba M, Araghi N, Azimi SZ. Allergic Rhinitis in Adults with Chronic

Suppurative Otitis Media. *Iran J Otorhinolaryngol*, 2015; 27(81): 261-266.

10. Noise-Induced Hearing Loss, National institute on Deafness and other communication disorder, NIH Publication No. 14-4233, Updated on March 16, 2022.
11. Tripati.I. Yogarathnakara, Vaidyaprabha Hindi commentary, Chowkamba krishnadas Academy, 1: 726.