Ayurvedic approach towards Karnagata Rogas

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ABSTRACT

The Uttamanga or head occupies the first place among the vital organs of the body. It is due to its substratum of vital and sense organs which includes eyes, ears, nose, oral cavity and CNS. Shalakya Tantra one among the Astangas of Ayurveda deals with the anatomically, physiology, pathology and management pertaining to Jyandanendriyas. The ears are one of the Jyandenriya. An ear is the organ that enables hearing and body balancing using the vestibular system. The organ of ear is situated deep below the body surface and inaccessible for inspection with naked eye or palpate. It can be facilitated with the help of modern aids like head mirrors, otoscope, various speculums, mirrors etc and the disorders can be understood on Ayurvedic line i.e., site, underlying Doshas, Dushyas, Lakshanas and should be treated with Ayurvedic line of management. Asatmyendriyartha Samyoga of Indriya i.e Ayoga, Atiyoga and Mithya Yoga of Srotrendriya causes Roga. Factors that affecting ear health are prolong usage of ear phones (particularly when the volume is set close to the maximum), exposure to loud noise/sounds (movie theatres, concerts, firecrackers etc), impacted ear wax, insertion of sharp or unclean particles into the ear, instillation of contaminated solutions, swimming in polluted water, recurrent upper respiratory tract infections, allergies, nutritional deficiency. Noise above 70 dB over a prolonged period of time may start to damage hearing. Loud noise above 120 dB can cause immediate harm to ears. In this article an attempt is made on understanding Nidana, Samprapti, signs and symptoms of Karnagata Rogas mentioned by various Acharyas in Ayurveda.

Key words: Karnagata Rogas, Nidana, classification, signs and symptoms, Local and internal therapies.

INTRODUCTION

The ancient text of Ayurveda initially divided body into six parts (Shadanga Shareera) and mentioned that human body mainly composed of major organs and their subparts which described as Anga and Pratyangas respectively as per Ayurveda science. The Shiras (head) and its subparts considered as superior (Uttamanga) since these organs controls whole body. The various sense organs like; Netra, Nasa and Karna also reside in this region.

According to Madhavakara Karna apart from other Indriyas is so minute that it is neither perceived with eyes nor it can be touched. Anatomically Karna is made up of Bahya Karna, Madhya Karna and Antah Karna. Bahya Karna is made up of Tarunasthi (cartilage) it consists of Karnashaskuli (Pinna/auricle), Karnapali (lobule) and Karna Putrika (tragus and anti-tragus). Karna contains one Tarunasthi, one Sandhi and two Peshi present in each ear, ten Siras out of that 2 are Vatavaha Siras, 2 are Pittavaha Siras, 4 are Kaphavaha Siras, and 2 are Raktavaha Siras, 2 Dhamanis, 1 Marma present in Karna.[¹]

Karna is one of the Panchajnanendriya and considered as Adhistana for Shrotrendriya. The ear is described as organ which is responsible for hearing and balance. Akaasha and Shabda Grahan are described as Indriya Dravya and Indriya Buddhi of Karna.

As per Modern ear is a complex organ. Its functional components, the hearing apparatus and balancing
organ are situated in the temporal bone of skull. Ear has intimate relationship to the brain occupying middle and posterior cranial fossa, jugular bulb, sigmoid sinus, internal carotid artery and cranial nerves (V, VI, VII, VIII, IX, X, XI).

The ear is divided into three parts External ear, Middle ear and Internal ear. The external ear is divided into auricle, external acoustic or auditory canal. The tympanic membrane separates external ear from the middle ear. The middle ear is a 1-2 cm$^3$ air filled cavity that houses ossicles (malleus, incus and stapes), Muscles (tensor tympani, stapedius) and nerves (chorda tympani, tympanic plexus). A canal that connects middle ear to the nose(nasopharynx) is termed as Eustachian tube. This tube balances pressure in the middle ear which is essential for proper transmission of sound waves. The internal ear is divided into bony and membranous labyrinth. Cochlear part of inner ear helps in process of hearing, vestibule is another part of inner ear which helps in balancing process.\textsuperscript{[2]}

**Nidana of Karna Rogas\textsuperscript{[3]}**

Knowledge of *Nidana* is important for complete knowledge of the disease & *Nidana Parivarjana* is said to be kind of a treatment itself.

- **Avashyaya (Dew):** Prolong exposure to snow leads to vitiation of *Kapha*. Vitiated *Kapha* produces itching in external auditory canal. Persons feel to scratch the ear to relieve itching & discomfort. As there is a pressure difference on either side of tympanic membrane leads to ear pain, ear discharge, tinnitus, aural fullness and conductive deafness.

- **Pratishyaya (Common cold):** *Pratisyaya* is said to be a cause of all the *Urdhwa Jatrugata Rogas*. Eustachian tube is the communication between middle ear and nasopharynx. So, infection of nasopharynx spreads to middle ear. Eustachian blockage creates negative pressure in the middle ear results into retraction of tympanic membrane and leads to tympanic perforation, ear discharge, conductive hearing loss.

- **Jalakrida:** Due to *Jala Krida* (swimming, deep sea diving), bath in the river, sea, fountains or sprinkling water etc., water enters into the external auditory canal may cause moistening of wax. The moistened wax swells up & occludes the meatus causing itching sensation, giddiness blockage & noises in the ear. This leads to swelling the skin of the external auditory canal and cause *Srava* beside this contamination can occurs due to polluted water.

- **Karnakanduyana:** Pricking/probing/ insertion of external objects such as stick, grass, hair pin, pencil etc. into the external auditory canal to relieve itching. But it causes rupture of the skin of external auditory canal & tympanic membrane leads to scratches, ulcers and inflammation

- **Mithayyogen Shastrasya:** Improper usage of instruments by unskilled persons during the examination and treatment may injure the external ear or even rupture tympanic membrane. More over if the instruments are not properly sterilized may cause infection.

- **Shirobhighata:** Injury to head especially to the temporal bone may cause severe complications of ear and even death.

- **Sound pollution:** Regular exposure to high frequency sounds leads to noise induced hearing loss.

- **Regular head bath:** The water if entered into the ears, easily cannot come outside because of curved external auditory canal, retention leads to the infection.

- Congenital, hereditary, psychological, professional, vascular anomalies, neurological, drug induced, degenerative and idiopathic causes can produce ear diseases.

**Samprapti of Karnarogas**

Two types

1. *Nija* i.e., due to *Dosha* involvement.
2. *Aagantuja* i.e., due to trauma or injury
Classification of Karnagata Rogas

There is difference of opinions among the Acharyas about the total number of Karna Rogas.

<table>
<thead>
<tr>
<th>Acharyas</th>
<th>Karnaroga Sankhya</th>
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<tr>
<td>Charaka</td>
<td>4</td>
</tr>
<tr>
<td>Sharangadhara</td>
<td>18</td>
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<tr>
<td>Vagbhatta, Madhavakara</td>
<td>25</td>
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<tr>
<td>Sushruta, Bhavamishra, Yogaratnakara</td>
<td>28</td>
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Classification of Karnarogas may be made as follows keeping the modern otology also in view[4]

Diseases of the ear:

I. General
   a) Vatika - Karnasula, Karnapranada, Badhirya, Karnakshveda, Karnapratinaha.
   b) Paittika - Karnapaka, Kshataja Vidradhi, Putikarna
   c) Slaishmika - Karnakandu, Karnasrava, Karnavarcha, Krimikarna, Putikarna

II. Localized
   a) Arsas - 4 types
   b) Arbuda -7 types
   c) Sodha - 4 types
   d) Vidradhi-2 type

III. Functional
   a) Auditory - Badhirya, Karnanada, Karnakshveda
   b) Vestibular - Bhrama

IV. Symptomatic
Karnashula, Karnapranada, Karnasrava, Karnakandu, Karnapratinaha, Karnapaka.

V. Anatomical
   a) Pinna - Karnakandu, Karnapaka, Karna Sopha like otitis externa, herpes infection, perichondritis, frostbite, Karna Arsas.
   b) Lobule - Karnapali Rogas
   c) External auditory canal - Karnagudha (ear wax), Karnakandu (otomycosis), Karnapaka (otitis externa), Karna Vidradi (furnculosis), Krimikarna (maggots), Karnagata Salya (foreign body in ear).
   d) Tympanic membrane - Karna Pratinaha (TM Perforation)
   e) Middle ear - Karna Srava (chronic otitis media without cholesteatoma/CSF Otorrhoea), Putikarna (Chronic suppurative otitis media with cholesteatoma)
   f) Inner ear - Bhrama.
   g) Karna Arbuda occurs in any part of the ear

Trividha Pariksha

Disease is a reflection of abnormalities in the normal structural, physiological or psychological aspects of the body. Before application of medication a well organized examination should be carried out, for an explicit diagnosis as also for designing proper line of treatment. However, it is very advantageous to use some recently introduced equipment to help more appropriate and clear observation of the part even to diagnose and treat on Ayurvedic lines.

Darshana Pariksha (Inspection)

Inspection of external ear and upto tympanic membrane with the help of torch or otoscope is useful

- Examination of pinna, preauricular and post auricular regions for size, shape, swellings, ulcer, scar, sinus and fistula
- Examination of external auditory canal - size of meatus, contents of lumen, swellings.
- Examination of tympanic membrane - quadrants of TM, color, cone of light, retraction, bulging, thickness and transparency, vesicles or bullae, perforation, mobility.
- Examination of middle ear (through perforation, transparent TM, middle ear exploration) - mucosa, contents, normal structures.
- Examination of mastoid - swelling
Examination of eustachian tube - blockage with the help of posterior rhinoscopy, Valsalva maneuver, eustachian catheterization.

Sparshana Parikisha (Palpation)
- Palpate the mastoid process - in acute mastoiditis the periosteum of mastoid process is thickened due to periostitis called “ironing of mastoid”
- Tenderness at the mastiod process and at the cymba conchae. Tenderness at this region signifies mastoiditis.
- Tenderness of tragus (Tragus sign) indicates furunculosis at the anterior wall of external auditory canal.
- Tenderness of pinna indicates perichondritis (Tenderness along the course of internal jugular vein in the neck and localized oedema over the thrombosing internal jugular vein is seen in lateral sinus thrombophlebitis)

Prashana Pariksha

History taking - Chief complaints, present and previous illness, medical and surgical history, family, personal history, examinations

Clinical tests of hearing - finger friction test, watch test, speech test, tuning fork test, pure tone audiometry.

Tuning fork test and their interpretation

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal</th>
<th>Conductive deafness</th>
<th>Sensorineural deafness</th>
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<tbody>
<tr>
<td>Rhinne</td>
<td>AC &gt; BC (Positive)</td>
<td>BC&lt;AC (Negative)</td>
<td>AC&gt;B C</td>
</tr>
<tr>
<td>Weber</td>
<td>Not lateralized</td>
<td>Lateralized to poorer ear</td>
<td>Lateralized to better ear</td>
</tr>
<tr>
<td>ABC</td>
<td>Same as examiners</td>
<td>Same as examiners</td>
<td>Reduced</td>
</tr>
<tr>
<td>Schwabach</td>
<td>Equal</td>
<td>Lengthened</td>
<td>Shortened</td>
</tr>
</tbody>
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Signs and Symptoms of Karnagata Rogas

1) Vataja Karna Roga Lakshana - Tinnitus, excessive pain, drying of ear wax, thin discharge and inability to hear

2) Pittaja Karna Roga Lakshana - Oedema, redness, ulceration, burning sensation, yellow as well as putrid discharge.

3) Kaphaja Karna Roga Lakshana - Defective hearing, itching, stiffness, oedema, white and unctuous discharge, dull pain

4) Sannipataja Karna Roga Lakshana - All the signs and symptoms of the three doshas, discharge is extremely putrid containing many colors.

Management of Karnagata Rogas

General treatment of all Karna Rogas includes[7]

1) Oral intake of medicated Ghrta
2) Rasayanas
3) Ayuyamam (avoidance of physical exertion)
4) Ashira Snanam (bathing without wetting the head)
5) Bhramacharyam (celibacy)
6) Akathanam (vocal rest)

According to Acharya Sushruta - Karna Shula, Karna Pranada, Badhirya and Karnaksveda all these 4 diseases have same line of treatment i.e., Snehana, Svedana (Nadi and Pinda Sweda) and Sneha Virechana.

According Acharya Bhavamishra and Yogaratnakara - Karna Srava, Putikarna, Krimikarna all these 3 diseases have same line of treatment i.e., Shirovirechana, Karna Avachoorana, Karna Prakshalana, Karna Dhupana, Karna Purana.

Karna Paka - Pittaja Visarpa Chikitsa, Dalhana says Sheeta Lepa, Pariseka.

Karna Kandu, Karna Sopha - Kaphahara Chikitsa i.e., Nadisweda, Vamana, Dhumapana, Karna Dhupana, Tikshna Nasya.

Karna Guthika - Karna Purana, Svedana and Aharana Karma.

Karna Pratinaha - Snehana, Svedana and Shirovirechana.

Karna Arshas - Bheshaja, Shastra, Kshara and Agni Karma.
Local Therapies - Karṇa Kriyakalpas\(^9\)

**Karṇa Purana/Ear Drops**

Procedure of filling Taila or Swarasa in the auditory canal for a particular time. It gets absorbed by skin lining (Bhrjaka Pitta) external auditory canal and tympanic membrane reaches systemic blood flow and shows its effect on body and local tissue. Person is asked to do chewing movements or tragus is gently pressed by finger 5-6 times to facilitate more drug absorption.

**Precaution** - it is better to do autoscopic before Karṇa Purana in order to rule out the presence of perforated T.M. Karpa Purana shouldn’t be done if there is perforation in tympanic membrane.

**Purva Karma** - Sneha Sweda - Koya Shodhana Karma like Vamana and Virechana (may or may not be done), Abhyangam should be done over the ears and around ears. Do Mrudu local Sweda.

**Pradhana Karma** - Swarasa or Taila is poured into the ear, till it fills the ear.

**Dharana Kala**
- In Karnã Rogas - 100 Matra Kala
- In Kantha Rogas - 500 Matra Kala
- In Shiro Rogas - 1000 Matrakala
- In painful condition - till pain relieves
- In Swastha - 100 Matra Kala

**Time** - Rasadi Dravya - before meal; Tailadi Dravya - After sunset.

**Some common medicines used:**

Kshara Taila, Murivenña, Surasādi Taila, Dhanwantaram Taila, Bala Taila, Masha Taila, Mahamasha Taila, Sarshapa Taila, Nirgundyādi Taila, Bilva Taila, Dipika Taila.

Swarasa Like Arka, Tulasi, Vasa, Lashuna, Aardrak.

**Contraindicated** - Tympanic membrane perforation, ear injury, cuts in the skin of ear, burns that affects ear.

**Karna Pichu**

Thick cotton soaked in medicated Taila/Grhta and placed in Karnã. It gives Snehana in Karnãnada, Badhriya conditions. There is sustained release of drug, longer tissue contact time increases absorption of medicine and helps in healing.

**Indications** - Karnã Srava, Karnakandu, Putikarna, Karñanada.

**Purvakarma** - Karnã Pramarjana (pus/debris should be cleaned)

**Pradhana Karma** - ear canal is made straight by pulling the pinna upwards and backwards. Then the Pichuvarti dipped in medicine (Jatyadi Ghṛta/Nirgundi Taila/Kshara Taila) is inserted into the ear canal with help of probe or forceps.

**Paschat Karma** - Karnã Dhupana should be done

**Dharana Kala** - It should be changed once or twice daily (depending on the condition and severity of disease)

**Karṇa Avacurṇanam**

Procedure of dusting the medicated fine powder in to the external auditory canal. After a stipulated time, the medicine is cleaned by cotton swap (Karṇa Prakshalana may or may not be done). This procedure is not so common. Medicines used are Aragwadhadi Gaṇa Chrṇa/ Surasadi Gaṇa Chrṇa/Nimbadi Churna/Samudraphena Churna.

**Indicated** in Putikarna, Karnasrava.

**Karṇamala Nirhraraṇa**

**Indications** - Karṇa Mala or wax in external auditory canal

Wax or Karṇa Varchas is a mixture of secretion of ceruminous glands, sebaceous glands, shredded epithelium and dust particles. If wax is hard and impacted in the internal walls of auditory canal, it should be removed with care, otherwise bleeding may result (better to do Karnapurṇa with Taila up to softening of wax occur, then perform Karṇamala Nirhraraṇa).
Purva Karma - Karṇa Puraṇa - instilaltion of oil for softening of wax (with Nirguṇḍi Kera, Kshara Taila. coconut oil, murivenṇa etc). Swedanam - to liquify wax and reduce pain

Pradhana Karma - Karnamala Nirharaṇa - carefully removing wax with wax hook or Karnamala Nirharaṇa Śālāka or jobsons probe with the help of head lamp light.

Paschat Karma - Karṇa Pramarjana - Karṇa Śōdhana with cotton buds

Karṇa Prakshālanam
Ear wash - to remove deeply seated foreign bodies or to flush out dried ear debris. Done with luke warm water or with suitable Drava Dravyas.

Indications - Krimikarṇa, Karṇa Kandu, Karnamala, foreign body in the ear canal etc.


Procedure - decoctions or water are taken in the aural syringe for ear wash. Nozzle of syringe should face posterior superior walls of ear canal and piston should be pressed with gentle pressure. The Karṇamala or foreign bodies with water is collected into the kidney tray. Then with the help of forceps foreign bodies, should be removed.

Precautions
- Syringing should not be done is ear discharge, history of ear discharge
- Non hygroscopic foreign bodies can be removed by syringing with water or decoction.
- Nonliving things/hygroscopic these swells with water so syringing causes impaction of foreign bodies by increased size. Instilling glycerin or alcohol is advisable to shrink and lubricate the foreign body.

Karṇa Pramarjana (dry mopping)
Oozing ear secretions or wet ear canal is cleaned or dried with cotton tipped stick or probe. Indication: - Putikarṇa painful or painless foul discharge from the ear/ Karṇaśrāva/ Karṇa Pāka - otitis media. Vitiated Vatadi Doshas causes pus discharge from the ear due to head injuries, diving in water, inflammation of canal mucosa etc. / Krimi Karṇa / fungal infections or otomycosis, Karṇa Vidradhi.

Krimi Karṇa - maggots in the ear-maggots of flies, mosquitoes, ants etc., may enter into ear canal from outside, erode the tissue of ear canal and so cause severe earache with ulcerative lesions. Fungal infections or otomycosis - it is very painful infection, accompanied by itching caused by fungus infection. Fungus gets implanted in the skin of ear canal and grows in the humidity provided by water.

Procedure - done with dried cotton Varti or cotton tipped probe. It should be done carefully under the head lamp light. If the auditory canal and external ear is completely cleaned, then stop the procedure.

Paschat Karma - Karṇa Dhupanam with Guggulu. After Dhūpanam, Karnapuranaṇam is done with Madhu (it is not necessary always)

Karṇa Dhūpanam
The residual exudates and Karṇa Krimi Jantus should be dried and killed by inserting medicated smoke or fumes is known as Karṇa Dhūpana. Done with Dhūpana Yantra, after that fill the ear canal with honey (if necessary). Common drugs used for Dhūpana are Guggulu, Agaru, Haridra, Hingu, Vidanga, Ela, Guggulu, Krishnatulasi, Nimba Patra, Haridra, Vaca, Jatāmamsi Make Varti with Triphala Kashaya, dried well and used for fumigation.

Karna Lepana
The external application of medicated around the ear indicated in Karṇa Shula, Karnapaka conditions. Medicines used are Sreyasadi Lepa, Gairikadi Lepa. Through Brajaka Pitta medicine is absorbed into skin and enhances blood circulations subsides the pain, inflammation, helps in healing.

Kavala and Gandusha
Procedure of holding the medicines in the oral cavity without movement is called Gandusha and with
movement Kavala. Indicated in the person who having history of recent or recurrent upper respiratory tract infections, eustachian tube dysfunction, allergic rhinitis as it leads to referred otalgia because the lining of middle ear cleft mucous is the extension of the respiratory mucous membrane from nasopharynx. Through this procedure infections of nasopharynx and oropharynx reduces, eustachian tubal block opens because of excessive movement of palatine muscles. It helps in recurrence middle ear infections.

**Nasya**

It is explained that Nasa being the gate way to Shiras (head), the drug administered through nostrils, reaches Shringataka Marma and spreads in the Murdha (Brain)) taking route of Netra (eye). Shrotra (ear), Kantha (throat) etc. and scrapes the morbid Doshas in supraclavicular region and extracts them from the Uttamanga.

In the intial phase Teekshna, Shodhana Nasya should be preferred to relieve Margaavarana by expelling the morbid Doshas followed by Shamana or Brmhana Nasya.

Medicines used for Shodhana or Teekshna Nasya are Pradhamana Nasya with Shunti/ Maricha/ Trikatu, and followed by Guda Shunti Nasya/Shadbindu Taila Nasya.

For shamana, Brmhana Anutaila/Ksheerabala Taila/Pancha Indriya Vardhan Taila/Panchagavya Ghrt.

**Pathya and Apathy in Karnagata Rogas**

**Pathya Ahara**
- Godhuma, Shala, Mudga, Yava,
- Puranaghrta
- Mamsa of Lava, Tittira And Harina
- Patola, Shigru, Vartaka
- Vanakukkuta

**Pathya Vihara**
- Bhramacarya
- Abhashanam
- Mithabhashanam
- Ayyavyam

**Pathya Upachara**
- Vamana
- Virechana
- Nasya
- Dhumapanca
- Siravyadhana
- Kavala And Gandusha

**Apathya Ahara**
- Guru, Kapha Kara and Abhishyanda Kara Aharas

**Apathya Vihara**
- Danta Dhavana
- Shirasmana
- Vyayama

**Apathya Upachara**
- Danta Dhavana
- Shirasmana
- Vyayama

**CONCLUSION**

Only after proper history taking, examination of ear and Nose Chikitsa to be advised. Identifying the Nidana and Nidana Parivarjana play an important role in the Karnagata Rogas. Treatment procedures like Karna Abhyanga, Shiro Abhyanga, Karnapurana and Pratimarsha Nasya which are explained as a part of Dinacharya should be incorporated in our daily life for...
the prevention of Karna Rogas. Kriya Kalpas are example of effective treatment for the Karnarogas according to Ayurveda. Internal medication acts as Dipana, Pachana, Vata Anulomana, Rasayana therefore reduces the reoccurrence of diseases. Thus, we can draw a conclusion that Ayurvedic treatment for Karna Rogas treats the problems systemically and relieves the underlying cause of dosha. Ayurveda offers simple, safe and effective treatment for Karna Rogas.

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