



## A SINGLE CASE STUDY ON KARNAKANDU W.S.R. TO OTOMYCOSIS

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**ABSTRACT**

**Introduction and Objectives:** A case study of a 23-year-old male who complained of itching in his right ear, associated with ringing sound and blockage, aggravating at night. Examination of the right ear revealed Otomycosis. **Methods:** The subject who approached *Shalaky Tantra*, OPD of Krishna Ayurvedic Medical College, Vadodara, was systematically examined, and *Kaphahara* line of intervention was planned. **Results:** Symptoms were reduced entirely, and the external auditory canal was evident after five days of treatment. No recurrence in symptoms was observed in the follow-up period. **Conclusion:** *Karnakandu* or otomycosis, is a common ENT disease affecting hot and humid climates. Along with proper early intervention, the ear must be kept dry as a preventive measure. A Patient diagnosed with Otomycosis and treated in KAMC *SHALAKYA* OPD with *Avachoorana*, along with *Karnadhoopana* and internal medication.

**Keywords:** *Karnakandu*, Otomycosis, *Tankana Bhasma*, *Avachoorana*, *Karnadhoopana*

**INTRODUCTION**

Otomycosis is one of the most common diseases in ENT OPD, especially in hot and humid areas. Fungal Infection of the External Auditory Canal (EAC) is

called Otomycosis. It is characterized by intense itching, discomfort or pain in the ear, watery discharge with a musty odour and ear blockage<sup>1</sup>. According to

the American Academy of Otolaryngology, the prevalence of Otomycosis is 5.2% worldwide and 9.00% in India. Further, 5- 25% of otitis externa is caused by otomycosis. 90% of fungal infections involve *Aspergillus Niger* and the rest of *Candida Albicans* species. Treatment includes Aural Toileting and administering antifungal agents or antibiotic steroid ear drops. Based on signs and symptoms, it can be correlated to *Karnakandu*. *Karnakandu* is caused by vitiation of *Kapha Dosha* and it accumulates in the ear canal, and it is characterized by *Kandu* and *Sopha* in the ear canal<sup>2</sup>. It is a frequently recurring condition, so it must be managed effectively. Ayurveda provides better treatment modalities with sustained effect, reduced reoccurrence and without adverse effects. Treatment principles include *Nadisveda*, *Vamana*, *Murdhavi-rechana*, *Dhoopana* and *Sarva Kapha Nashaka Chikitsa*.<sup>3</sup>

#### MATERIALS AND METHODS

**Case History:** A 23-year-old male patient came to KAMC *Shalakya* OPD with chief complaints of itching, ear blockage, and ringing in the right ear for last 1 week.

**Family History** – Nothing significant

**Medical Treatment** – The patient was Consulted elsewhere and prescribed Ear drops, but the patient didn't get relief.

**H/O of present illness** – The patient was said to be standard two weeks, then gradually developed itching, ear blockage, and ringing in the right ear. Then he consulted Elsewhere and was given medicine for ear wax, but the patient didn't get relief. So, he visited KAMC *Shalakya* OPD.

#### General Examination –

Pulse rate - 74/minute

Respiratory rate - 16/minute

Blood pressure - 130/80 mmHg

Systemic examination was within normal limits.

#### EAR EXAMINATION (Table 1)

##### Diagnosis

*Karnakandu* / Otomycosis (*Candida albicans*)

##### Treatment adopted

**Internal medication-** For 5 days - *Sarivadi Vati* 2 BD (A/F)

##### Procedure –

**Day 1** – *Karna Pramajana* using Jobson's probe.

*Karna Avachurnana* with *Tankana Bhasma*

*Karnadhoopana* with *Guggulu* and *Haridra*

**Day 2** - *Karna Avachurnana* with *Tankana Bhasma*

*Karnadhoopana* with *Guggulu* and *Haridra*

**Day 3** - *Karna Avachurnana* with *Tankana Bhasma*

*Karnadhoopana* with *Guggulu* and *Haridra*

**Day 4** - *Karna Avachurnana* with *Tankana Bhasma*

*Karnadhoopana* with *Guggulu* and *Haridra*

**Day 5** - *Karna Avachurnana* with *Tankana Bhasma*

*Karnadhoopana* with *Guggulu* and *Haridra*

##### Result

The patient got Significant changes in signs and symptoms within 2 days of treatment. On the 5<sup>th</sup> day of treatment, the patient was completely relieved from itching and other symptoms. After treatment *Pathyas* were advised to patient for further preventive aspects. On further follow up, neither there were any such complaints reported nor any reoccurrence noted till date.



Before treatment Day 1 (figure 1) After treatment Day 5 (figure 2)

**Table 1**

<b>EXAMINATION</b>	<b>RIGHT EAR</b>	<b>LEFT EAR</b>
<b>PINNA</b>		
Position	Normal	Normal
Shape and Size	Normal	Normal
Tenderness	Negative	Negative
Temperature	Normal	Normal
Swelling	Absent	Absent
<b>EAC</b>		
Meatal wall	Hyperemia  Fungal mass white piece	Normal
Cavity	Fungal web + +  (White color)	Normal
Discharge	Thick scanty discharge +	Normal
<b>TYMPANIC MEMBRANE</b>		
Position	Not visible	Normal
Color	Not visible	Normal
<b>MASTOID</b>	Non tender	Non tender
<b>EUSTACHIAN TUBE FUNCTION</b>	Normal	Normal

TUNING FORK TEST		
Rinnes test	AC > BC	AC > BC
Weber's test	No lateralization	No lateralization
ABC test	Normal	Normal

## DISCUSSION

### Case Concept and Line of treatment

Otomycosis is a fungal infection of the ear canal that often occurs due to *Aspergillus Niger*, *A. fumigatus* or *Candida albicans*. It is seen in hot and humid climates of tropical and subtropical countries. Secondary fungal growth is also seen in patients using topical antibiotics to treat otitis externa or middle ear suppuration. The clinical features of otomycosis include Intense itching, discomfort, ear pain, discharge with a musty Oduor and ear blockage<sup>4</sup>. The fungal mass may appear white, brown, or black and be likened to a wet piece of filter paper. Treatment consists of a thorough ear toilet to remove all discharge and epithelial debris conducive to fungus growth. It can be done by syringing, suction or mopping. Antifungal treatment should be continued for a week, even after an apparent cure, to avoid recurrences.<sup>5</sup> In Ayurveda, this can be correlated to *Karnakandu*, one among *Karnagata Roga*. Its signs and symptoms include *Kandu* (itching), *Srava* (discharge), *Manda Ruja* (mild pain), *Vaishruthya* (ringing sound) and *Gaurava*.<sup>6</sup>

In this case, as fungal growth is white, it is because of *Candida albicans*. No other findings were diagnosed as *Karnakandu* (otomycosis), and treatment was carried out. *Kaphahara Chikitsa* is followed as *Kapha Dosha* is vitiated in *Samprapti* of *Roga*. *Karna Pramarjana* was done with Jobson's probe, followed by *Avachurnana* of EAC with one pinch of *Tankana Bhasma*. *Dhoopana Karma* (Fumigation) was administered with *Haridra-Guggulu Varti*. In this study, a combination of both internal medicines and external therapeutic procedures was given

simultaneously. Hence, the combination of these medicines gives the best results.

### Probable mode of action

Fungal web and growth were removed by *Pramarjana* with a Jobson's probe and confirmed using an otoscope. *Tankana Bhasma*, which is used for *Avachurnana*, is *Kaphaghna*, and having *Kshara Gunas*, it helps in the prevention of fungal growth and reduces the inflammation in EAC. *Karna dhoopana* drugs *Haridra* and *Guggulu* have qualities like *Krimihara*, *Kadughna* and *Tridoshahara*. *Dhoopana Karma* is *Ruksha*, *Ushna* in nature, its *Ushna Guna* reduces the chance of further fungus growth. Its *Ruksha Guna* also decreases *Snigdha Guna*, reducing *Kleda* (moisture) favorable for fungal growth. Thus, fungal growth is prevented by *Dhoopana*. Also, *Sarivadi Vati* was given, which is indicated in all types of *Karna Roga*; it mainly does the *Kapha Vata Shamana*.<sup>7</sup>

## CONCLUSION

It can be concluded that in *Karnakandu* patients, combined treatment of *Karna Pramarjana*, *Tankana Bhasma Avachurnana*, and *Karnadhoopana*, along with internal medication, is very effective. It is cost-effective and easy for administration. Along with this medical intervention, further *Nidana Parivarjana* and *Pathyas* are essential for sustained effect.

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