AN OVERVIEW ON AYURVEDIC MANAGEMENT OF KARNAKANDU W.S.R TO OTOMYCOSIS – A CASE STUDY

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ABSTRACT

Otomycosis is the fungal infection of the external auditory canal. Otomycosis is to be compared in classical with Karnakandu, which is also a symptom of Kaphaja Karnashoola in terms of etiology, pathology and symptoms. Antifungal agents are the proven remedy for Otomycosis, prescribed both orally and topically but they are having their own side effects. Hence present case study is conducted to know the efficacy of ayurvedic line of management. In this study, karnadhoopana with Lakshadi choorna and karnapoorana with kshara taila has been selected. Lakshadi choorna contains krimighna dravyas which acts as antifungal and Kshara taila which contains 4 types of kshara,4 types of Lavana and other kaphavataha drugs, having lekhana, ksharana, teekshna gunas and antifungal property thereby hopefully will be a remedy for the Otomycosis.

KEYWORDS: Otomycosis, Karnakandu, Karnadhoopana, Karnapoorana, Krimighna.

INTRODUCTION

Otomycosis is a fungal infection of the ear canal, oftenly occurs due to fungal infection with Aspergillus niger, A Fumigatus or Candida Albicans(International Code for Diseases is B36.9).¹ It is seen mostly in hot and humid climate of tropical and subtropical countries. Intense itching, discomfort or pain in ear, Scaly exfoliation of skin with a musty odour and ear blockage are its clinical features.²
According to American Academy of Otolaryngology, in general population, the prevalence of Otomycosis is 5.2% all over the world and 9% in India.\[^3\] Predisposing factors such as self inflicted trauma, failure in the defence mechanisms in external auditory canal, change in PH, quantitative and qualitative changes in ear wax, swimming, all of which may render the host prone to the development of Otomycosis.

Any classical disease can be understood by knowing its symptomatology according to modern terminology. After thorough study, otomycosis can be compared in classics with Karnakandu, Karnakandu is one of the karnagata rogas, mentioned by Acharya Sushruta.\[^4\] It is Kapha Pradhan Vyadhi and is one of the symptom in Kaphaja Karnashoola according to Acharya Charaka. Karnakandu is a disease according to Ayurveda but according to modern science it is one of the major symptoms of Otomycosis.

Antifungal agents are the proven remedy for Otomycosis, prescribed both orally and topically. For this, Clotrimazole, Nystantin and Itraconazole has been selected as an effective drug of choice,\[^5\] but they are having their own side effects like burning sensation, stinging sensation, nausea, vomiting and fever, and sensitivity testing of fungi is also difficult and usually does not corelate with clinical response.

Hence in the present case study, karnadhoopana with Lakshadi choorna and karnapoorana with kshara taila has been selected. Lakshadi choorna contains krimighna dravyas which acts as antifungal and Kshara taila which contains 4 types of kshara,4 types of Lavana and other kaphavatahara drugs, having lekhana, ksharana, teekshna gunas and antifungal property thereby hopefully will be a remedy for the Otomycosis.

**AIMS AND OBJECTIVES**

1. To observe and assess the effect of Lakshadi Choorna Karnadhoopana in the management of Otomycosis.
2. To observe and assess the effect of Kshara Taila Karnapoorana in the management of Otomycosis.
3. To observe and assess the effect of Lakshadi Choorna Karnadhoopana and Kshara Taila Karnapoorana in the management of Otomycosis.
MATERIALS AND METHODS
A 43 year male patient diagnosed with Otomycosis was selected from the OPD, Department of PG Studies in Shalakya Tantra, Shri Jayachamarajendra Institute of Indian Medicine, Bengaluru.

CHIEF COMPLAINTS AND ASSOCIATED COMPLAINTS
A male patient of age 43 years c/o severe itching in right eye, reduced hearing associated with mild ear ache and fullness of ear since 8 days.

CASE HISTORY AND PRESENT ILLNESS
A nondiabetic, nonhypertensive male patient of age 43 years was apparently healthy 8 days back. Gradually he started c/o itching in the right ear, reduced hearing with mild ear ache and fullness of ear since 8 days. Patient had h/o recurrent exposure to rain since past 15 days. For the above said complaints, patient had came to our hospital for further management.

Past History: Nothing Specific.

Personal History
Appetite: Reduced
Bowel: Clear
Micturition: Clear
Sleep: Disturbed since 3 days.

Family History: Nothing Specific

General Examination
Temperature – Afebrile
Pulse – 68bpm
B.P – 110/70mmhg

Aural Examination, Table 1.

<table>
<thead>
<tr>
<th>Parts Examined</th>
<th>Right Ear</th>
<th>Left Ear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Auricular Area</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Post Auricular Area</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>External Auditory Canal</td>
<td>Presence of Scaly Exfoliations</td>
<td>Normal</td>
</tr>
<tr>
<td>Tympanic Membrane</td>
<td>Not Visible</td>
<td>Normal</td>
</tr>
</tbody>
</table>
Hearing Tests:
Rinne’s Test  Right Ear  BC > AC  Left Ear  AC > BC
Weber’s Test  Lateralised to both the ears equally
ABC Test  Reduced  Ears equally  Normal

Investigations: Nothing Specific
Diagnosis: Karnakandu (Otomycosis)

Treatment Done: Table 2. Treatment Regimen.

<table>
<thead>
<tr>
<th>Treatment Days</th>
<th>Procedure</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 to 5</td>
<td>Karnapramarjana f/b Karnadhoopana with Lakshadi Churna</td>
<td>5 Minutes</td>
</tr>
<tr>
<td>Day 6 to 10</td>
<td>Karnapurana with Kshara Taila</td>
<td>5 Minutes</td>
</tr>
<tr>
<td>Day 11 to 20</td>
<td>Internal Medications 1. Gandhaka Vati, 1 BD 2. Tab. Grab, 1BD</td>
<td>10 days</td>
</tr>
</tbody>
</table>

OBSERVATIONS AND RESULTS
Patient was asked to follow up after 10 days of kriyakalpa. On the day of follow up patient was significantly relieved from the above said complaints.

Observations: Table 3.

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Clinical Features</th>
<th>Grading Scale</th>
<th>Before Treatment</th>
<th>After Karnadhoopana</th>
<th>After Karnapoorna</th>
<th>During Follow Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>VAS Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td>Pain</td>
<td></td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self Grading Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Itching</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>03</td>
<td>Reduced Hearing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>04</td>
<td>Fullness Of Ear</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Pictogram of fungal exfoliations before and after treatment taken by USB Endoscope

Image 1 – Before Treatment.  Image 2 – After Treatment.
Assessment Scale Gradings: Table 4.

<table>
<thead>
<tr>
<th>Assessment Criterias</th>
<th>NO SYMPTOM</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>0 – No Pain</td>
<td>1 – Occasional Pain</td>
<td>2 – Intermittent Pain</td>
<td>3 – Continuous Pain</td>
</tr>
<tr>
<td>Itching</td>
<td>0 – No Itching</td>
<td>1 – Occasional Itching</td>
<td>2 – Frequent Itching</td>
<td>3 – Severe itching Continuously</td>
</tr>
<tr>
<td>Reduced Hearing</td>
<td>0 – Patient can reproduce all the words heard</td>
<td>1 – Unable to hear whispering voice</td>
<td>2 – Unable to hear normal voice</td>
<td>3 – Unable to hear Loud Voice</td>
</tr>
<tr>
<td>Fullness of Ear</td>
<td>0 – No fullness sensation</td>
<td>1 – Occasional Fullness sensation</td>
<td>2 – Intermittent fullness sensation</td>
<td>3 – Persistent fullness sensation</td>
</tr>
</tbody>
</table>

**DISCUSSION**

*Karnakandu* is one of the *karnagata roga*, as mentioned by *Acharya Sushruta*. It is also one of the symptom in *kaphaja karnashoola* as per *Acharya Charaka*. It is mainly caused by *Avashyaya* i.e those who are having Chronic Rhinitis, *Jalakreeda* i.e regular exposure to moist, humidity, swimming & excessively taking headbath. All are *Kaphakara nidaana*, by which there will be accumulation of *kapha* (exfoliations), in the *karna* which is *Vaatapradhana Indriya*.

As the symptoms can be correlate to *Otomycosis*, which is Caused by fungal infection, the drugs which are *kaphahara* and *krimighna* in nature are useful in treating the disease.

*Lakshadi Choorna:* It is one of the *Anubhoota Yoga* which includes *Laksha, Haridra, Nimba and Guggulu* in equal quantity. All are having *krumighna and kaphahara* properties. *Laksha* one of *Asthiposhaka dravya*, also helps in giving strength to Tympanic Membrane which is considered as a form of *asthi*.

*Karnadhoopana:* It is one of the *kaphavaatara kriyakalpa*. The *dhoopa* coming from the burnt drugs will dry up the moisture content present in the *Otomycosis* and helps as *krimighna*.

*Kshara Taila:* *Kshara Taila* contains *Baalamoolaka Kshara, Shunthi Kshara, Hingu, Shatapushpa, Vacha, Kushitha, Daruwaridra, Shigru, Rasanjana, Sowarchala, Yavakshara, Swarjika kshara, Oudhbha kshara, Saindhavam, Bhoorja granthi, Vidalavana, Musta, Madhushukta, Matulunga, Kadali Swarasa*. *Kshara* is best for *lekhana dravya* and does the *ksharana karma* which helps in scraping the fungal infected tissue. All other drugs are mainly
kaphavatahara, teekshna, krimighna in nature and kshara taila is also indicated in krimikarna and kaphaja karnashoola.

Karnapoorana\textsuperscript{[9]} is a procedure of instilling medicated oil into the External Auditory Canal upto the tragus level. This is best in Vaatashamana which needed in Otomycosis in the later stages to prevent from Karnanada and Badhirya and also helps in preventing the recurrence of Otomycosis.

Gandhaka Vati\textsuperscript{[10]} and Capsule Grab are given internally for 10 days, 1tablet two times a day after food. Gandhaka Vati is a herbomineral compound whose contents helps in keeping the Kapha and Vata Dosha in balance. Gandhaka and Mulakakshara present in it acts as antibacterial and antifungal in nature. It also contains agnivardhaka ingredients such as Shunthi, Lavanga, Maricha, Saindhava and Souvarchala Lavana which improves agni which is main Nidaana for any kind of disease. Capsule Grab\textsuperscript{[11]} is a proprietary medicine manufactured by Green Remedies Ayurpharma company. It contains 11 herbomineral compounds having strong anti-inflammatory properties useful in preventing itching.

CONCLUSION
In the present case of Otomycosis, Kaphavatahara, Krimighna action of Lakshadi Churna karnadhoopana and Kshara Taila Karnapoorana and internal medicines are helpful in relieving the signs and symptoms. Overall there was significant improvement in the condition. Hence there is need to implement Ayurvedic medicines in larger samples of the disease to draw a concrete conclusion.

REFERENCES
1. Internet Source for International Codes for Diseases : icd10data.com > website retrieved 05/10/2021 at 12:30pm.
2. P.L Dhingra, Diseases of Ear, Nose and Throat, Elsevier Publication-2014, 1\textsuperscript{st} Section, 8\textsuperscript{th} chapter, p.52.
3. Amisha Patel, Article published on “ Review on The Effect of honey in the management of Otomycocic”, Dept Of Shalakya Tantra, IGPT and RA, GAU, Jamnagar( IJAM ), article retrieved on 05/10/2021 at 1:30pm.
5. P.L Dhingra, Diseases of Ear, Nose and Throat, Elsevier Publication-2014, 1st Section, 8th chapter, p.52.