

# A Critical Review of Otomycosis in Context to *Karna Roga* Describe in Ayurveda Classics

**Amisha Patel\*, D.B. Vaghela, Chandani Goswami**

Department of *Shalakya Tantra*, Institute for Postgraduate Teaching and Research in Ayurveda,  
Gujarat Ayurved University, Jamnagar, Gujarat, Ahmedabad, India

## Abstract

Otomycosis is the fungal infection of the external auditory canal. It is characterized with itching, discomfort or pain, ear discharge, decreased hearing, ear blockage and ringing in ear. According to American academy of otolaryngology, prevalence of otomycosis is 5.2% all over world and 9.00% in India. In Ayurveda, Acharya Vagbhata has described five types of karna shoola according to vitiation of dosha. Symptoms of karna shoola are pain, heaviness, itching, discharge, etc. according to doshika involvement, which are also seen in otomycosis. On removing of fungal colonies, ulcer in the external auditory canal is generally found, so pathology of vrana also need to be understand for proper understanding as well as management of otomycosis. Otomycosis is common clinical entity in ENT clinics and modern treatment has many draw backs. So in order to provide ayurvedic management devoid of complications, the disease should be thoroughly comprehended in context to Ayurveda. Any classical disease can be understood by knowing its symptomatology according to modern terminology. In this study, otomycosis is to be compared with classical karna roga from all available texts of Ayurveda, modern and internet. After thoroughly study, otomycosis can be correlated with krana shoola and karna gata dushta vrana in terms of etiology, pathology and symptoms.

**Keywords:** Karna gata dushta vrana, karna shoola, otomycosis

**\*Author for Correspondence** E-mail: amisha.patel1311@gmail.com

## INTRODUCTION

Otitis externa which is caused by fungus is called otomycosis. It is estimated that approximately 5–25% of the total cases of otitis externa are due to otomycosis [1]. It has symptoms such as discomfort or pain, itching, ear discharge, ear blockage, decreased hearing and ringing in ear [2]. Etiological factors of otomycosis are scratching of the ear, water entry in ear, long standing use of topical antibiotic, etc. Scratching of the ear causes discontinuity of the epithelium of the External ear canal. Fungus lodges in that area and grows. Water entry in ear causes wash out of the ear wax. Hence, the wax is bactericidal and fungicidal, it provides protection from it. So, wash out of wax provide favorable atmosphere for lodge and growth of fungus. Fungal growth occurs in the alkaline media as EAC has slight acidic pH. Generally, it protects from fungal infection, but any factor which alters the pH of the EAC can cause otomycosis, like long-term use of antibiotic ear drops, excessive sweating and water entry in ear, etc. Chances of

occurring otomycosis is more in the diabetic, HIV, etc. debilitating patient, taking steroids or antibiotics since long-term, due to lowering of the immunity. Otomycosis is more prevalent in hot and humid climate. Therefore it is commonly seen in the monsoon and summer session. It is more common in individuals of lower socioeconomic status with poor hygienic conditions. Fungal infection easily occurs in dark and moist area. EAC is provided the same, so it has high prevalence. Signs of the otomycosis are blackish, brownish or whitish type of fungal mass, erythema and tragus tenderness. After removing of the fungal mass, we can see the erosion in the epithelium of the EAC [3].

Treatment of otomycosis consists of anti-fungal and anti-bacterial therapy orally as well as topical. There are many adverse effects like erythema, blistering, stinging, irritation, hypersensitivity reactions, contact dermatitis, gastrointestinal disturbances, dysuria, mental depression, elevated liver enzymes. So, it is

need to provide ayurvedic management for the same without any adverse effect. Therefore, otomycosis is to be understood in ayurvedic prospective. With this aim present study is carried out to do a critical review of otomycosis.

Among twenty five types of *karna roga* mentioned by Acharya Vagbhata, otomycosis can be correlated with *karna shoola* on the basis of etiology, pathology and symptoms. As erosion occurs in EAC in the otomycosis and it can also be correlated with *karna gata dushta vrana*. Symptoms of otomycosis are also similar to *karna gata dushta vrana*.

## AIM OF STUDY

- A detailed review of otomycosis, *karna shoola* and *karna gata dushta vrana* from both Ayurveda and modern point of view.
- Establish correlation of otomycosis with *karna shoola* and *karna gata dushta vrana*.

## MATERIALS

Brihatrayi, Laghutrayi, etc. ayurvedic books available modern literature and also internet are used as a source of material.

## REVIEW OF LITERATURE

### Karna Shoola

Acharya Sushruta has described only one type of *karna shoola* while Acharya Vagbhata has described five types of *karna shoola* on the basis of vitiation of *dosha*.

### Karna Shoola According to Acharya Sushruta

The violent aching pain in the region of the ear and inside the tympanum caused by the deranged local Vayu, aggravated and obstructed by the other deranged *doshas* in the locality is called the *karna shoola* (earache) [4].

Acharya Vagbhata has described five types of *karna shoola* according to vitiation of different *doshas* which are mentioned below.

### Vataja Karna Shoola

Due to *pratishyaya* (common cold), indulging in water sports, pricking the ears inside, hearing improper sounds and such other exciting causes, *maruta* (*vata*) gets aggravated,

localized in the veins of the ear and produces pain quickly accompanied with pain in half portion of the head, rigidity (of the neck and head), aversion to cold; ripens (pus formation) after long time and when ripe, exudes little quantity of lymph (*lasika*), ears feels empty, sometimes blocked and sometimes open without any reason. These are the features of *vataja karna shoola* [5].

### Pitaja Karna Shoola

In *karna shoola* arising from *pitta*, there are symptoms like burning sensation, local warmth, desire for cold comforts, swelling, and fever, ripens quickly and after ripening exudes yellow colored lymph (*lasika*) and at all the places, where this fluid comes in contact there will be ripening (ulceration suppuration) [6].

### Kaphaja Karna Shoola

In *karna shoola* arising from *kapha*, there is feeling of heaviness of the head, lower jaw and neck; pain (in the ear) is mild; itching, swelling, desire for warm comforts are present, after ripening there is discharge of white thick exudates [7].

### Raktaja Karna Shoola

*Rakta* getting aggravated by injury (blow, fall, etc.) produces *karna shoola* similar to that of *pitta* origin but with slightly more troublesome symptoms [8].

### Sannipataja Karna Shoola

*Karna shoola* arising from all the *doshas* together will produce symptoms likes welling, fever, severe pain, desire for hot and cold comforts alternately, impairment of hearing; when ripe the discharge is white, whitish-black and red in color, and thick pus flows [9].

On removing of fungal colonies, ulcer in the external auditory canal is generally found. On this basis, the pathology of *vrana* also needs to be comprehended for proper understanding as well as management of otomycosis. Therefore concept of *vrana* also should be understood.

*Vrana* having involvement of *dosha* is called *dushta vrana* [10]. All the Acharya have described signs and symptoms of *dushta vrana*. But here *vata* and *kapha dosha* play

major role so sign and symptoms of *vata* and *kapha* are described as follows [11].

**Table 1: Symptoms & signs of Vataja & Kaphaja Dushta Vrana.**

Name of Acharya	Dosha	Symptoms and Signs	Quality of Discharge
Acharya Charaka	Vataja	Severe pain, blockage	Scanty discharge
	Kaphaja	Dull ache, heaviness	Sticky
Acharya Sushruta	Vataja	Different types of pain	Watery, cold, sticky
	Kaphaja	Itching, mild pain, feeling of blockage, heaviness	White, cold, thick, Sticky
	Vata-Kaphaja	Itching, painful, heaviness	Recurrent, cold, sticky, Scanty
Acharya Vagbhata	Vataja	Different types of pain	Curd like but watery
	Kaphaja	Itching, with all inflammatory signs but dull ache	Thick, profuse

### SAMANYA LAKSHANA OF VRANA

*Ruka* is *samanya lakshana* of *vrana* [12] which means pain. In otomycosis, on the removing of fungal colonies, ulcer is seen in external auditory canal commonly. While describing *vrana*, Vagbhata has described *samanya lakshana* of *dushta vrana* which is having characteristics like pus discharge, itching, edematous or congested and painful [13]. Among fourteen type of *vrana srava*, Acharya Charaka has mentioned *lasika* (serous), *jala* (watery) and *puya* (pus) type of *srava* which as observed in otomycosis [14].

### VRANA VASTU

Dalhana has clarified that *vrana vastu* means *vrana adhisthana* [15]. Acharya Sushruta and Acharya Vagbhata [16] have mentioned variety of *srava* in *twaka* and *mamsa vrana vastu* which is found in otomycosis is mentioned below (Table 2).

**Table 2: Types of Vranasrava from Tvaka & Mansa Varanavastu.**

Vrana Vastu	Vrana Srava	
	Acharya Sushruta	Acharya Vagbhata
Tvaka	Watery, foul smelling, yellowish, butter like	Watery, foul smelling, yellowish
Mansa	Sticky, white, thick	Sticky, white, thick

### DISCUSSION

Otomycosis is defining as fungal infection of external auditory canal. It is commonly occurs in person who has having history of ear scratching, water entry in ear during bath or swimming, long-term use of antibiotics ear drops, etc. Otomycosis occurs most commonly in hot and humid climate. Patients of otomycosis is report with the symptoms such as pain, itching, ear blockage, discharge, decreased hearing, ringing in ear. Fungal spores invade in the epithelial layer of the ear and in response to that inflammatory process starts which will reflect as pain. Itching is due to immune reaction of body during inflammatory process. As a result of this inflammatory process, exudates will be produced which will mix up with fungal colonies and appear as discharge. In initial stage of disease, ear discharge is watery but if there is secondary bacterial infection occur it becomes mucopurulent. Ear blockage and hearing loss are due to accumulation of fungal mass in external auditory canal. Conductive type of hearing loss is seen in otomycosis. Ringing in ear occurs may be because of vibration of tympanic membrane due to discharge and debris and also because of increased vascularity of external auditory canal.

The word *karna shoola* literally means pain or discomfort in ear which can be from external ear (e.g. otitis externa, furuncle), middle ear (e.g. Acute Otitis Media) or rarely from internal ear (e.g. suppurative labyrinthitis), or outside from ear (referred otalgia). *Karna shoola* occurs due to *sevana* of *nija nidana* and *agantuja nidana* both. *Nija nidana* is *pratishyaya* while *agantuja nidanas* are *avashya*, *jalakrida/jalanimajjana* and *karnakanduyana*. Due to the etiological factors which are of *vata-kapha* provocative in nature, gradual vitiation of *doshas* will occur. After vitiation they get accumulated (*sthana samshraya*) in the external auditory canal. In other hand, when patient does *sevana* of *agantuja nidana* like water entry in ear, scratching of the ear, unsterile instrumentation, etc. leads to *achaya purvaka dosha prakopa*. These *doshas* cause *twak* and *mamsa dhatu dushti* which leads to discontinuity of epithelium of ear canal which creates suitable

**Table 3:** Comparison between Otomycosis, Karnashoola & Karnagata Dushta Vrana.

	Otomycosis	Karna Shoola [5,7]	Karna Gata Dushta Vrana
<b>Etiological Factors</b>	Water entry in ear while bath/swimming	Jalakrida/Jalanimajjana	-
	Scratching of the ear	Karnakanduyana	-
<b>Symptoms</b>	Pain or discomfort	Shoola or Manda Ruja	Samanya vrana lakshana [12]
	Itching	Kandu	Kanduyanashila [12] (Kapha nanatmaja vikara)
	Watery discharge with musty odor	Lasikaor Swetaghanashruti	-
	Ear blockage	Shrotra Shoonya	-
	Hearing loss	-	Due to kapha avrita vata
	Ring in ear	-	Due to involvement of vata

atmosphere for fungal pathogen to grow. By assessing the symptoms, it can be said that *kapha avrita vata dosha* is responsible for the manifestation of clinical features like pain, itching, discharge, etc. which are seen in otomycosis. The vitiated *vata* will produce symptoms such as pain, tinnitus, hearing impairment and vitiated *kapha* causes symptoms like itching, discharge, and blockage.

Acharya Charaka has mentioned while explaining *samanya chikitsa* of *karna roga* that it should be treated like *vrana* when *paka* and *srava* is present as a symptom [17]. As per *doshika* involvement in *vrana*, *shoola*, *srava*, etc. can be differ. In otomycosis, mainly watery and purulent type of discharge is present which indicates *paka avastha*. After removing the fungal mass, ulceration in external auditory canal is commonly seen. According to Acharya Sushruta, 'Ruk' is the *samanya lakshana* of 'vrana' [12] and *vishesha lakshana* of 'vrana' includes pain, discharge, discoloration, itching, etc. according to *doshika* involvement which are also seen in otomycosis [12]. If there is *dosha* involve in 'vrana' is called '*dushta varna*' [18]. On the basis of this description, otomycosis can be correlated with *karna shoola* and *karna gata dushta vrana*. Acharya Sushruta and Acharya Vagbhata have mentioned variety of *srava* in *twak* and *mamsa vranavastu* which is also found in otomycosis. *Karna shoola*, *karna gata dushta vrana* and otomycosis can be correlated in brief as per shown in Table 3.

## CONCLUSION

On the basis of this literature review, it can be concluded that otomycosis can be correlated with *karna shoola* and *karna gata dushta vrana* in all prospective.

## REFERENCES

1. Palmer KK, Vaghela DB, Manjusha R. A clinical study on the effect of Arka Taila in the management of Karnasrava (Otomycosis). *Ayu*. Jul-Sep 2011; 32(3): 349-352p.
2. Dhingra PL, Dhingra S. Disease of Ear Nose and Throat and Head and Neck Surgery, 6th Edition. New Delhi: Elsevier; 2014; 52p.
3. Palmer KK, Vaghela DB, Manjusha R. Further study on Role of Arka Taila in the management of Karnasrava w.s.r. to Otomycosis. Shalaky Tantra Department, IPGT & RA, 2010.
4. Sushruta, Sushruta Samhita, Hindi Commentary by Kaviraja Ambika Dutta Shashtri, Varanasi, Chaukhambha Sanskrita Sansthan, Uttarasthana, Karnarogavigyaniya 2014; Chapter, 6: 113p.
5. Vagbhata, Astanga Hridayam, Hindi Commentary by Atridev Gupta, Varanasi, Chaukhambha Sanskrita Sansthan, Uttarasthana, Karnarogavigyaniya, 2011; 1-3: 691p.
6. Ibid Vagbhata, Astanga Hridayam, Hindi Commentary by Atridev Gupta, Varansi, Chaukhambha Prakashana, Uttarasthana, Karnarogavigyaniya, 2011; 4-5: 692p.
7. Ibid Vagbhata, Astanga Hridayam, Hindi Commentary by Atridev Gupta, Varansi, Chaukhambha Prakashana, Uttarasthana, Karnarogavigyaniya, 2011; 5-6, 692p.
8. Ibid Vagbhata, Astanga Hridayam, Hindi Commentary by Atridev Gupta, Varansi, Chaukhambha Prakashana, Uttarasthana, Karnarogavigyaniya, 2011; 6-7, 692p.
9. Ibid Vagbhata, Astanga Hridayam, Hindi Commentary by Atridev Gupta, Varansi, Chaukhambha Prakashana, Uttarasthana, Karnarogavigyaniya, 2011; 7-8, 692p.

10. Vridhha Vagbhata, Astangasangraha, sashilekha Sanskrita Commentary of Indu, Edited by Shivprasad Sharma, Varanasi, Chaukhambha Sanskrita Series Office, Uttaratantra, Vranavibhaktiparigyanaya, 2006; 4: 773p.
11. Agnivesha, Charaka Samhitha, Hindi Commentary by Kashinatha Shashtri and Gorakha Natha Chaturvedi, Varanasi, Chaukhambha Bharti Academy, chikitsasthana, dvivraniya. 2009; 11(15): 698, 699p.
12. Sushruta, Sushruta Samhita, with Hindi Commentary by Kaviraja Ambikadutta Shashtri, Varanasi, Chaukhambha Sanskrita Sansthan, chikitsasthana dvivraniya. 2014; chapter, verse 7, 4p.
13. Vridhha Vagbhata, Astangasangraha, with sashilekha Sanskrita Commentary of Indu, Edited by Shivprasad Sharma, Varanasi, Chaukhambha Sanskrita Series Office, Uttaratantra, Vranavibhakti Parigyanaya. 2006; 7(9): 774.
14. Sushruta, Sushruta Samhita, with Hindi Commentary by Kaviraja Ambikadutta Shashtri, Varanasi, Chaukhambha Sanskrita Sansthan, chikitsasthana, dvivraniya. 2014; 6: 4p.
15. Vridhha Vagbhata, Astangasangraha, with sashilekha Sanskrita Commentary by Indu, Edited by Shivprasad Sharma, Varanasi, Chaukhambha Sanskrita Series Office, Uttaratantra, Vranavibhakti Parigyanaya, 2006; 5: 773p.
16. Agnivesha, Charaka Samhitha. Hindi Commentary by Kashinatha Shashtri and Gorakha Natha Chaturvedi, Varanasi, Chaukhambha Bharti Academy, chikitsasthana, dvivraniya, 2009; 28: 702p.
17. Sushruta, Sushruta Samhita. Hindi Commentary by Kaviraja Ambika Dutta Shashtri, Varanasi, Chaukhambha Sanskrita Sansthan, Sutrasthana vranasravavigyaniya. 2014; 3: 123p.
18. Vridhha Vagbhata, Astangasangraha, with Sashilekha Sanskrita Commentary of Indu, Edited by Shivprasad Sharma, Varanasi, Chaukhambha Sanskrita Series Office, Reprint 2006, Uttaratantra, Vranavibhaktiparigyanaya, verse 14-15, p775.
19. Agnivesha, Charaka Samhitha. Hindi Commentary by Kashinatha Shashtri and Gorakha Natha Chaturvedi, Varanasi, Chaukhambha Bharti Academy, Chikitsasthana, Trimarmiya. 2009; 221; 755p.
20. Vagbhata. Astanga Hridayam with Hindi Commentary by Atridev Gupta, Varanasi, Chaukhambha Prakashana, Reprint 2011, Uttarasthana, Vranavigyana pratishedha. 2011; 1: 734p.

#### Cite this Article

Amisha Patel, DB Vaghela, Chandani Goswami. A Critical Review of Otomycosis in Context to *Karna Roga* describe in Ayurveda Classics. *Research and Reviews: A Journal of Ayurvedic Science, Yoga and Naturopathy*. 2017; 4(3): 1–5p.