

## THERAPEUTIC EFFECT OF VIRECHANA AND KARNAPOORANA IN MENIERE'S DISEASE-A CASE STUDY

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### ABSTRACT

Meniere's disease, synonymously known as endolymphatic hydrops is a disorder of the inner ear where the endolymphatic system is distended with endolymph. It is characterised by four cardinal features (1) vertigo (2) sensorineural hearing loss (3) tinnitus and (4)aural fullness. The annual incidence of Meniere's disease is 5-7 / 10,000 with the first attack being most commonly in the third to sixth decade of life. The condition needs to be addressed with proper measures in the initial stage itself as it can affect the psychological wellbeing, hampering the quality of life of sufferers. Current line of management is found to be deficient in providing absolute cure for this disease. In ancient *Ayurvedic* treatises there is no reference that can be correlated exactly to the meniere's, but based on the symptomatology it has simulation with various manifestations like *Bhrama* (giddiness), *Karnanada*(karna=*ear*, *Nada*=*sound*, *karnanada*=perception of different sounds like ringing, roaring, hissing in the ear) and *Karnabadhira* (hearing loss). Analysis of each of these manifestations proves that it is a *vata pitta pradhana tridoshaja vyadhi*. The ayurvedic treatment given to a patient with intractable meniere's disease who has approached the outpatient department of *Shalakyatantra* of Shri Kalabhyraveshwara swami Ayurveda Medical College Hospital and Research Centre, Bangalore has shown significant results. Considering the dosha pradhanyata of the vyadhi the patient was treated with *virechana* and *karnapoorana* as these are the best *pittahara* and *vatahara chikitsa* respectively. As treatment methodology adopted in this case has been encouraging, especially where other systems of treatment failed, the particular case has been selected for this article.

**Keywords:** Meniere's disease, *Bhrama*, *Karnanada*, *Karnabadhira*, *virechana*, *Karnapoorana*

### INTRODUCTION

Meniere's disease synonymously known as endolymphatic hydrops is a disorder of inner ear resulting in impairment of hearing and giddiness. Although the disease had been recognised in the early 1860s, the details of underlying mechanism still remains unclear.<sup>[1]</sup> However the distension of endolymphatic system due to increased volume of endolymph is the most common pathology explained in modern science.

Either the increased production of endolymph or its faulty absorption or both together can result in the increased volume of endolymph. The vasomotor disturbance, sodium and water retention, endocrinal causes like hypothyroidism, auto immune and viral causes are the various theories postulated as the aetiological factors. Nearly 50% of Sufferers have concomitant allergy either of food or inhalant or both.<sup>[2]</sup> Thus-

Meniere's disease is multifactorial, finally ending up in endolymphatic hydrops with manifestation of classical symptoms. The disease is characterised by the tetrad of symptoms-episodic vertigo, fluctuating hearing loss, tinnitus and aural fullness.

The annual incidence of Meniere's disease is 5-7 / 10,000 with the first attack being most commonly in the third to sixth decade of life.<sup>[3]</sup> The symptoms of Meniere's varies in intensity from mild to disabling. The quality of life of the sufferers is severely hampered by the disease especially the psychological well-being, which manifest mainly as anxiety and depression. There is a vicious cycle of interaction between somatic symptoms and psychological disturbances.<sup>[4]</sup>

In ancient *ayurvedic* treatises there is no reference that can be correlated exactly to the Meniere's, but based on the symptomatology it has simulation with various manifestations like *Bhrama*(giddiness), *Karnakshweda*, *karna nada*(perception of different sounds like ringing,roaring,hissing in the ear)and *Karnabadhira* (hearing loss). *Bhrama* manifest as a symptom in many diseases explained in classics such as *pandu*, *jvara*, *arshas*,*grahani* etc. According to *Acharya Susruta*, *bhrama* manifests due to vitiation of *manasika-dosha rajas* and *sareerikadoshas* like *pitta* and *vata*.<sup>[5]</sup> *Dalhana Acharya* further explains *Bhrama* as a subjective feeling of rotatory motion as if placed on a revolving wheel.<sup>[6]</sup> The modern science also reveals that the patients of meniere's disease gets feeling of rotation of himself or his environment. *Bhrama* is also described as one among the symptoms of *kapha kshaya* and *majjakshaya*. As explained by *Acharya Videha Karnakshweda* is caused due to the association of vitiated *vata* along with *kapha*,*pitta* and *rakta*. It is characterised by hearing *venughosha* (sound of flute) in

the ear<sup>[7]</sup>.*Shrama* (exertion), *dhatukshaya*(depletion of *dhatu*s) and *rookshakashayabhojana* (excessive intake of dry and astringent food) are the causes described for *Karnakshweda*.<sup>[8]</sup> When vitiated *vata* increases in *srotrendriya* there will be production of different sounds like *bheri/mrudangasabda* (sound from different musical instruments like drum) or *sankhasabda* (sound produced from conch shell) which is described as the disease *karna nada*.<sup>[9]</sup> The high pitched ,hissing or rushing sound in ear indicates a pathology in the inner ear.The hissing sound in the ear is explained as a *lakshana* of *karna nada* by *Videha Acharya*.Thus it can be understood that that the *karna nada* is linked with the inner ear pathology.*Karna nada*, if not treated at the proper time can lead to *badhira* which is a *kaphasamsrushta vatavyadhi*. *Karna* is the *adhishtana* of these manifestations which is the seat of *vayu* and *akashamahabhoota* ). Analysis of each of these manifestations proves that the disease is a *vatapitta pradhana tridoshaja vyadhi*.*Vatapittaharachikitsa* should be the first line of management considering the *adhishtana*, *stanantaragatadosha* and *dosha pradhanyata* of *vyadhi*. The *satwavajayachikitsa* should also be emphasized owing to the *dushti* of *manodosha-rajass*.

The conservative management is the only available measure for this disease in the modern science and it is found to be deficient in providing absolute cure. Vestibular sedatives and vasodilators are usually administered to relieve vertigo and to control acute attacks. If attacks are not controlled by these medicines diuretics can be given to control recurrent attacks.<sup>[10]</sup> But vasodilators like histamine can give rise to adverse reactions and Intratympanic gentamicin therapy is associated with

severe hearing loss in 4-30% of patients. Risk of mild to severe hearing loss is reported with Endolymphatic sac surgery, vestibular nerve section, transmastoid labyrinthectomy.

Thus the disease demands an appropriate measure which can reverse the pathology without causing any side effects. *Virechana* and *karnapoorana* has been selected to treat this particular case as these are the best *pittahara* and *vatahara-chikitsa* respectively.

### CASE REPORT

A 52-year-old male patient approached the outpatient department of *Shalakyatantra* of ShriKalabyraveswara swami Ayurveda Medical College Hospital and Research Centre, Bangalore on 3-10-2014. The patient was presented with complaints of recurrent episodes of vertigo, hearing loss and ringing sound in both the ears.

History of the patient revealed that giddiness was developed four years back along with difficulty in hearing in his left ear. He also noticed weird sounds in the ear which aggravate during the attack. The giddiness was associated with imbalance, positional vertigo, nausea, vomiting and loose stools. During the initial stage, each episode of vertigo lasted for 30min-1hrs and gradually progressed to current duration of 2-3hrs. The frequency of attack progressed from once in a month to two to three times in a week. The hearing loss was gradual in onset and two years back it affected the right ear also. The hearing improved after the attack initially but for the last one year, there is hearing loss even during the period between the attacks. The patient was unable to perform his day to day activities and he was forced to take rest most of the time. The tinnitus even impairs his sleep. Thus the above issues

hamper the quality of life and psychological well being of the patient.

Investigations available (Pure tone audiometry on 13-6-2013) were showing moderate sensorineural hearing loss in right ear and severe sensor neural hearing loss in left ear. Craniocorpography tests like standing test, tandem walking, unterburger's test were showing changes suggestive of peripheral vestibular lesion. The patient was under the medication of Tab.Ditide(1-0-0), Tab. Vertin 24mg (1-1), and Tab. Nexito 5mg(1-0-0) for past three years. None of these medications were able to resolve his complaints.

### Diagnosis

The case had been diagnosed as definite meniere's as it fulfils the criteria explained by AAOHNS as follows:

- Two or more definitive spontaneous episodes of vertigo lasting 20 minutes or longer.
- Audiometrically documented hearing loss on at least one occasion.
- Tinnitus or aural fullness in the affected ear.
- All other causes excluded.

### Intervention

The patient was subjected to the treatment- virechana with *trivritavaleha* followed by *karnapoorana* with *katutaila*. The patient was instructed to follow *pathyaahara* and *vihara*.

### Dose and duration

- **Deepanapachana:** *Panchakola-choorna*-0-1/4-1/4 tsp half an hr before food for 3 days.
- **Snehapana:** *Mahathiktaka ghrita*-
- 1<sup>st</sup> day :30ml
- 2<sup>nd</sup> day: 60ml
- 3<sup>rd</sup> day: 120ml
- **Sarvanga abhyanga** with *Dhanvantara taila* and *Bashpasweda* for 3 days.
- **Virechana:** *Trivrit avaleha*-60gm

- **Samsarjanakrama**-followed for 3days.
- **Karnapoorana: Sarshapataila** for 7days.

**Follow up**

The case had been followed up twice in a month after the course of treatment for 2 months.

**Criteria for assessment**

Assessment of the effect of treatment on signs and symptoms have been done based on subjective and objective parameters by adapting a grading pattern before and after the treatment as follows:

**Table 1. GRADING OF SIGNS AND SYMPTOMS**

SYMPTOMS	0	1	2	3	4
<b>TINNITUS</b>	No tinnitus	Audible only in silent environment	Audible only in ordinary acoustic environment, but masked by loud environmental sounds; can disturb falling asleep, but not sleep in general.	Audible in all acoustic environments, disturbs falling asleep, can disturb sleep in general and is dominating problem that affects quality of life.	-
<b>VERTIGO</b>	No vertigo	Vertigo not associated with any other symptoms.	Associated with nausea&vomiting. Remission lasting for months.	Associated with pallor/ bradycardia/ abdominal cramp/ cold/ diarrhoea/ sweat. Remission lasting for weeks.	-
<b>FUNCTIONAL LEVEL</b>	Does not affect day to day activities	During the attack patient has to stop the activity, can resume the work after the attack.	During the attack patient has to stop the activity, can resume the work after the attack. But patient has to compromise in some activities.	Patient is disabled and unable to do day to day activities.	-
<b>HEARING LOSS</b>	No hearing loss	Mild (26-40dB)	Moderate (41-55dB)	Moderate (41-55dB)	Severe (71-91dB)

**Observations and results**

**Table 2. Effect Of Treatment In Tinnitus And Hearing Loss**

(BT-Before Treatment, AT-After Treatment, AT1-After Follow Up)

Parameter	Right Ear					Left Ear				
	BT	AT	% Relief	AT1	% Relief	BT	AT	% Relief	AT1	% Relief
Tinnitus	3	1	67%	1	67%	3	1	67%	1	67%
Hearing Loss	2	2	0%	2	0%	4	2	50%	2	50%

Table3.Effect Of Treatment In Vertigo &Functional Level (BT-Before Treatment, AT-After Treatment, AT1-After Follow Up)

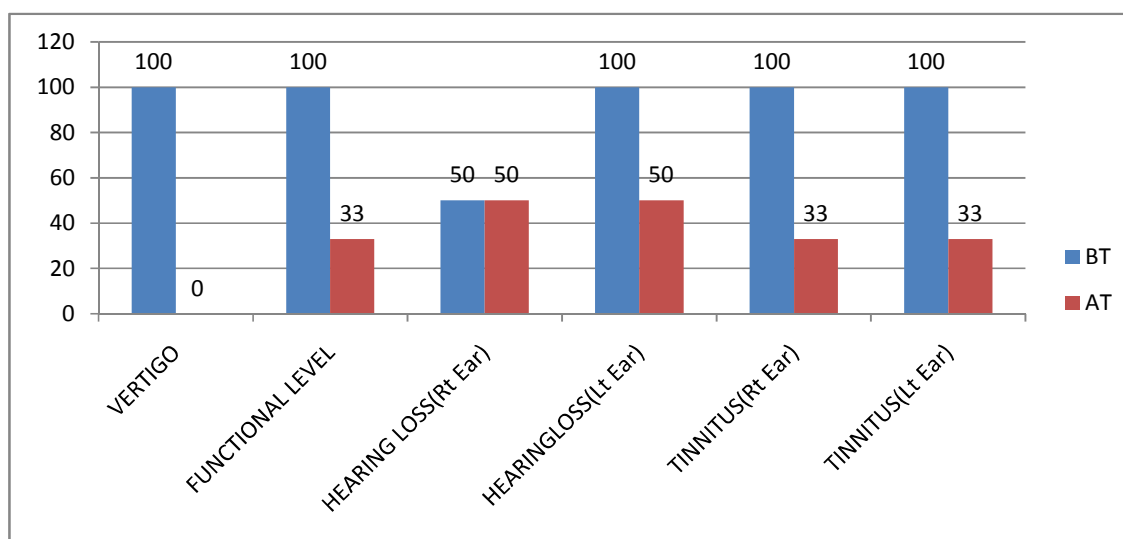
PARAMETERS	BT	AT	% Relief	AT1	% Relief
VERTIGO	3	0	100	0	100
FUNCTIONAL LEVEL	3	1	67	1	67

Table 4: Pure Tone Average Before And After Treatment(BT-Before Treatment, AT-After Treatment,PTA-Pure Tone Average):

	RIGHT EAR		LEFT EAR	
	BT	AT	BT	AT
PTA	45	45	73.3	50

There was significant reduction in the symptoms after treatment especially in the vertigo. There was complete reduction in vertigo immediately after *virechana*, which enhanced the functional level of the patient. The vertigo reduced from the grade-3 to grade 0 after the treatment. There were no episodes of vertigo after

treatment and during follow up. Tinnitus in both ear also showed significant reduction from grade 3 to grade 1 after treatment and during follow up. Even though the hearing loss in the right ear showed no change after treatment, hearing loss in the left ear was reduced from severe to moderate hearing loss i.e., from grade 4 to grade 2.



## Figure 1 : SEVERITY OF SYMPTOMS IN PERCENTAGE

There was 100% reduction in vertigo after treatment and 67% reduction in the tinnitus and functional level. The hearing loss in right ear showed no change whereas the same in left ear had 50% improvement.

## DISCUSSION

The patient presented as a case of intractable Meniere's disease with impairment in the quality of life by the disease especially, the psychological well-being. Challenge was that whether Ayurveda can cure and improve the quality of life of such patients?

Even though the tetrad of symptoms of Meniere's disease cannot be found together in any of the diseases explained in Ayurveda, the manifestations of *Bhrama*, *karna nada*, *karnakshweda* and *badhirya* have similarities with symptoms of Meniere's disease. Analysis of these manifestations proves that the condition is a *vata pittapradhana tridoshavyadhi*.

The patient was administered *snehapana* with *mahatiktakaghrita* and *virechana* with *trivrit avaleha* followed by *karnapoorana* with *katutaila*. The results obtained immediately after *virechana* was noteworthy especially as there was complete relief in vertigo. The tinnitus also reduced to greater extent after *karnapoorana*. The reduction in both these symptoms enhanced the patient's quality of life and confidence. The comparison of audiometry reports before and after treatment also revealed significant reduction in hearing loss in left ear.

### ACTION OF MAHATIKTAKA GHRITA

➤ *Mahatiktakaghrita* explained in *Ashtangahrudaya* was selected for *snehapana* as it is an excellent formulation for *paittikavikaras* and

indicated also in *bhrama*<sup>[11]</sup>. It is having *srotoshodhana* and *raktaprasadanakarma*. As it contains *tiktarasa pradhanadravyas*, it does the *upashoshana* of the *kleda, shleshma* and *pitta*. Thereby it may reduce the increased *dravaguna* and *sara guna* of *pitta* and *kleda* which may help to reduce the excessively produced endolymph. The *ghrita* itself is the best medicine to alleviate *pitta* and *vata*. When it is processed with *tikta rasa dravyas*, it also alleviates *dooshita-kapha*.

### ACTION OF TRIVRIT AVALEHA

➤ *Trivrit avaleha* is having *pittakaphasamana, vatanulomana* and *srotoshodhanaproperty*. *Trivrit* is having *kashayamadhura rasa* and *rookshaguna* and it is the best formulation to induce the *sukhavirechana*<sup>[12]</sup>. By virtue of these properties, it helped to eliminate the *dooshita pitta* and *kapha* along with *vatanulomanakarma*. The above said properties helped to bring back doshas to normalcy and thereby relief in symptoms.

### PROBABLE ACTION OF VIRECHANA IN MENIERE'S DISEASE

➤ *Virechanadravya* due to its *ushna, teekshna* and *sukshmaguna* reaches the *sookshmasrotas*<sup>[13]</sup>; i.e., the target area; vascular epithelium in striavascularis and causes *vishyandana* of doshas ultimately eliminating them from the body. The *virechana* brought about *srotosudhi* by removing *dooshita pitta* and *kapha* and thereby removing the *margavarodha*. *Virechana* also brings *vata* in *anulomagati*. Thus the *vata vrudhi* in the *srotrendriya* which is a seat of *vayu* and *akasha mahabhoota* will be inhibited. Due to these

properties, it reduces *bhrama*, *badhirya* and *karna nada*.

- The *virechana* helps in depleting the fluid volume in the body. As endolymph resembles the intracellular fluid, it may also be reduced by *virechana*.
- The vitiated vata impairs the conduction of sound while transduction of sound is hampered by vitiated pitta. As this particular mechanism is brought back to normalcy by the pitta-hara and vatanulomana karma of *virechana*, which could be understood as the reason for significant improvement in hearing following *virechana*.
- *Virechana*, being the best *pittahara chikitsa* will also correct the *dooshita rakta* as *pitta* and *rakta* are inter-related due to *ashraya ashrayi bhava*. *Virechana* will also promote the functioning of *srotrendriya* as it is having *indriyaprasadanakarma*.<sup>[14]</sup>

#### **ACTION OF KARNAPOORANA WITH KATUTAILA**

- *Karnapoorana* with *katutaila* is indicated in *nada-badhiryachikitsa* in various treatises<sup>[15]</sup>. *Katutaila* is having *kapha vatahara* property there by it helps to reduce *badhirya* which is described as a *kaphavruta vatavyadhi*.
- *Karnapoorana* is explained as a *dinacharya* to prevent *vatikakarnaroga* and *badhirya*. It is also described as one among the *vicharanasneha*. Hence *katutailakarnapoorana* is an excellent therapy to reduce the *vatikakarnaroga* which could be the reason for significant reduction in tinnitus and hearing loss following *karnapoorana* in the present case.

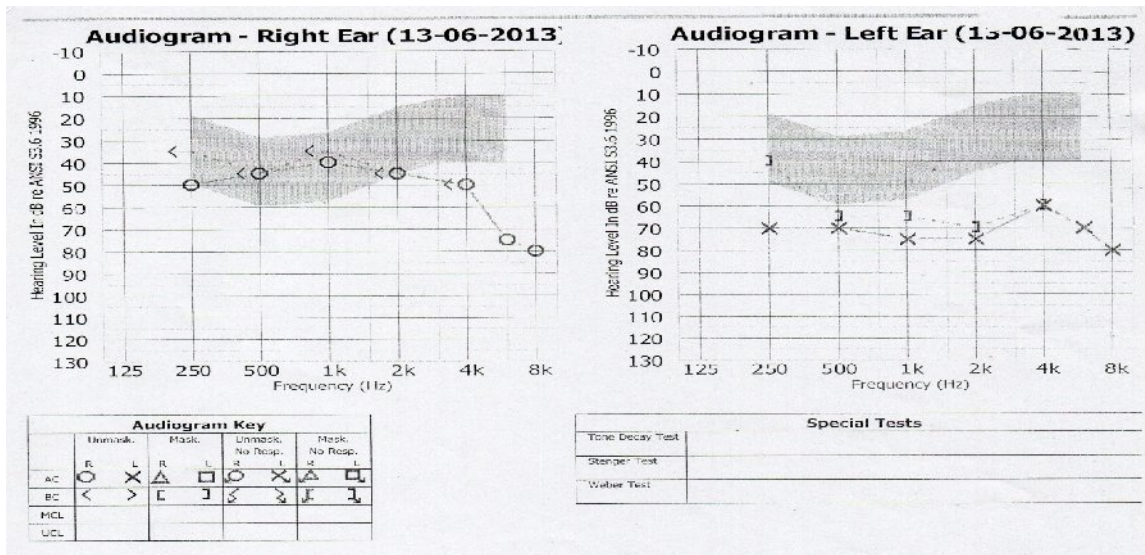
The present case study signifies the role of *virechana* and *karnapoorana* in the treatment of Meniere's disease. The *chikitsa* should be *pittahara* followed by *vatanulomana* considering the *adhishtana* and *doshapradhanyata* of vyadhi. The results obtained after treatment was remarkable as it was a case of intractable Meniere's disease. As treatment methodology adopted in this case has been encouraging, especially where other systems of treatment failed, it is desirable that further studies and clinical trials be conducted in a few more similar cases to arrive at a decisive conclusion about the choice of treatment and to improve the success rate.

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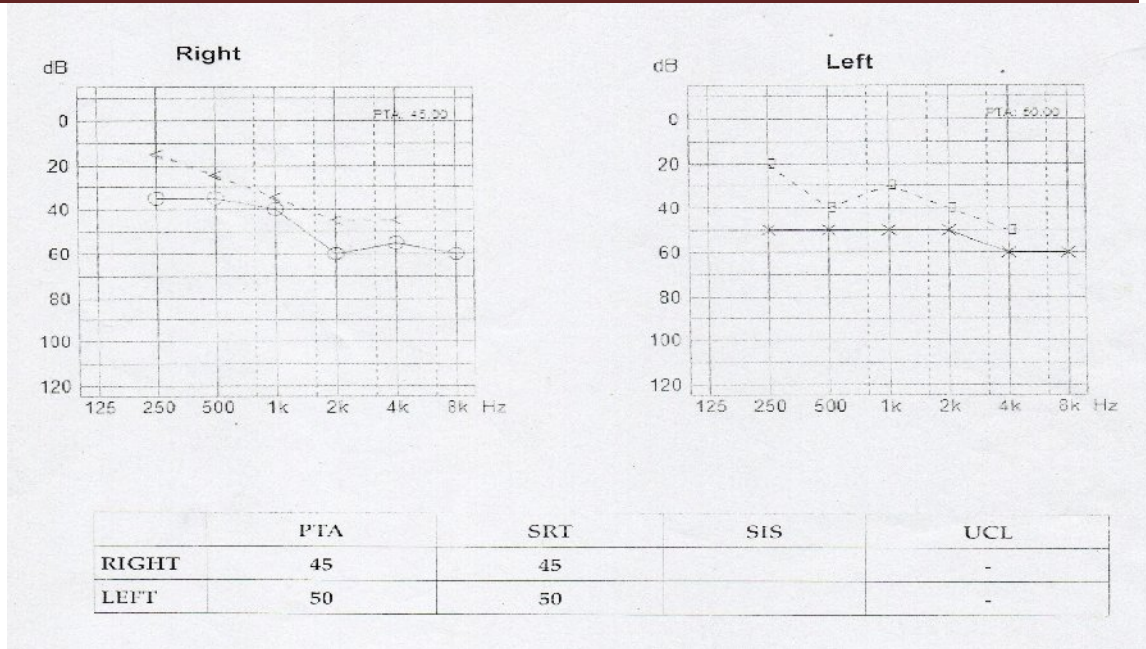
#### **CONCLUSION**

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**AUDIOMETRY REPORT ON 13-02-2015**





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Source of support: Nil  
Conflict of interest: None Declared