

# A Literary Review on Ménière's Disease and its Management in Unani Medicine

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## Abstract:

### ➤ *Background:*

Ménière's disease (MD) is a chronic, idiopathic disorder of the inner ear characterized by recurrent episodes of vertigo lasting longer than 20 minutes, fluctuating low-frequency hearing loss, aural fullness, and/or tinnitus. These vertigo attacks often occur suddenly and may be severely disabling. With time, some patients may develop progressive hearing impairment and persistent imbalance. The condition is believed to result from either excessive production of endolymph, impaired absorption of endolymph, or a combination of both. The concept of hypothyroidism as a specific disease entity is not explicitly described in classical Unani medical texts. In Unani medicine, although Ménière's disease is not described as a separate entity, its major symptoms—such as vertigo, tinnitus, sensorineural hearing loss, and aural fullness—can be correlated with clinical conditions explained under *Su-e-Mizaj Barid Maddi*, which refers to a disturbance caused by a cold and material temperament. This condition is believed to arise due to the excessive accumulation of fluid, comparable to the increased production of endolymph in the inner ear. Based on this concept, efforts have been made to understand the disease from the Unani perspective and to explore its management through Unani therapeutic principles.

### ➤ *Objective:*

This paper aims to provide a brief overview of Ménière's disease, highlighting its understanding from the perspective of Unani medicine and discussing the approaches used in its management.

### ➤ *Conclusion:*

Irregular lifestyle patterns, unhealthy dietary habits, and physical inactivity may contribute to the development of Ménière's disease. Early intervention is important to prevent further complications, and Unani medicine may play a beneficial role in its management. The treatment approach in Unani medicine involves the use of *Musakkin* (sedatives), *Mufatteh Urooq* (vasodilators), and *Mudir-e-Baul* (diuretics), along with measures aimed at eliminating *Khilt-e-Ghair Tabai* (abnormal humours). In addition, *Ilaj-bil-Tadabeer* (regimental therapy) is recommended as part of the therapeutic protocol, which may help achieve promising outcomes in the management of Ménière's disease.

**Keywords:** *Ménière's Disease, Vertigo, Tinnitus, (Taneen), Deafness.*

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## I. INTRODUCTION

Ménière's disease (MD) is a chronic disorder of the inner ear characterized by a classic triad of symptoms: recurrent episodes of vertigo, fluctuating sensorineural hearing loss (SNHL), and tinnitus[1]. The disease can significantly impair a patient's quality of life, often limiting

social interaction, physical activities, and the ability to work, while also causing persistent fatigue. The unpredictability of vertigo attacks and the fluctuating nature of hearing loss may lead to psychological problems such as anxiety and other mental health disturbances [1,2]. In patients with severe or intractable MD, neurosis and depression have been reported in approximately 40–60% of cases[3].The

underlying mechanism of these symptoms is believed to be increased hydraulic pressure within the endolymphatic system of the inner ear, a condition known as endolymphatic hydrops (EH). Prosper Ménière was the first to describe Meniere's disease in the early nineteenth century. The disorder affects roughly 0.3–1.9 individuals per 1,000 population, which is approximately two people per 1,000 [4]. Globally, the incidence has been estimated at around 12 cases per 1,000 individuals, and nearly 100,000 new cases are reported each year [5,6]. In the United States, the prevalence is about 200 cases per 100,000 people, meaning that less than 0.2% of the population is affected. [7]. The condition is most commonly observed in adults between 35 and 60 years of age, with males reported to be affected more frequently than females.[8] Anatomically, the inner ear is composed of two main structures: the bony labyrinth and the membranous labyrinth, both of which play an essential role in hearing and balance. The membranous labyrinth contains endolymph, while the space between the membranous and bony labyrinths is filled with perilymph. The membranous labyrinth is composed of several structures, including the cochlear duct, utricle, saccule, three semicircular ducts, and the endolymphatic duct and sac. The cochlear duct is divided by two longitudinal membranes into three compartments: the scala tympani, scala media, and scala vestibuli. Among these, the scala media has a triangular cross-section. One of its boundaries is formed by Reissner's membrane, which extends obliquely from the spiral limbus near the modiolus to the lateral wall of the cochlea, running along the inner surface of the bony wall and separating the scala media from the scala vestibuli. The organ of Corti extends in a spiral pattern along the floor of the scala media and lies on its lower boundary, which is formed by a non-cellular layer known as the basilar membrane.[8,9,10] The aim of this study is to provide an overview of Meniere's disease, along with its interpretation from the perspective of Unani medicine, and to discuss the approaches used in its management.

## II. UNANI PERSPECTIVE ON MENIERE'S DISEASE

*Amraz-e-Uzn*, *Anaf wa Halaq* is a specialized branch of Unani medicine that deals with diseases related to the ear, nose, and throat, including disorders of the oral cavity. According to Unani literature, the ear (*Uzn*) is an important sensory organ. When a patient complains of post-nasal discharge that worsens during the winter season, the condition is referred to as *Nazlah*. It occurs due to the abnormal accumulation of *Balgham* (phlegm) and other pathological substances in the brain. These accumulated phlegmatic materials descend from the brain toward the ear, leading to symptoms such as vertigo, tinnitus (*Taneen*), deafness, and other related manifestations. The etiological factors include exposure to cold air, activities such as swimming or diving, irritation of the external auditory canal, noise pollution, and untreated chronic systemic illnesses. According to Unani physicians, the treatment approach focuses on lifestyle modification, maintaining body warmth, strengthening the brain and nervous system, and eliminating waste products along with accumulated abnormal humors

from the body, particularly from the head (Jahangir et al., 2014). [11]

### ➤ Epidemiology

Meniere's disease affects approximately 0.3 to 1.9 individuals per 1,000 population, which is nearly 2 persons per 1,000 people.[4] Globally, the incidence is estimated to be about 12 cases per 1,000 individuals, and nearly 100,000 new cases are reported each year.[5,6] In the United States, the prevalence is around 200 cases per 100,000 people, indicating that less than 0.2% of the population is affected by this disorder.[7] The condition is most frequently observed among individuals aged 35–60 years, with men being affected more commonly than women.[8]

### ➤ Etiology of Meniere's Disease

The exact cause of Ménière's disease is still not clearly understood; however, it is considered a multifactorial disorder. Several factors have been identified that may contribute to the development of this condition, including the following:

- **Viral:** The involvement of viral infections—such as Herpes Simplex Virus (HSV), Cytomegalovirus, or Varicella-Zoster Virus (VZV)—has been suggested, but their exact role in causing the disease remains unclear.
- **Hereditary:** A family history is observed in approximately 10–20% of cases, suggesting a genetic predisposition. The condition is believed to follow an autosomal dominant pattern of inheritance.
- **Autoimmune:** Certain genetically determined major histocompatibility complexes, particularly human leukocyte antigens (HLA) such as B8/DR3 and Cw7, have been found to be associated with Ménière's disease, suggesting a possible autoimmune involvement in its development.
- **Stress and Vasomotor Disturbance:** Excessive sympathetic nervous system activity may lead to sudden episodes of hearing loss and vertigo by causing spasms in the blood vessels that supply the neuroepithelium of the labyrinth. Additionally, reduced oxygen supply (anoxia) can increase the permeability of the stria vascularis, resulting in leakage of fluid and excessive production of endolymph.
- **Allergy:** It has been reported that nearly 50% of patients with Ménière's disease show allergic sensitivity to airborne allergens or certain food substances. In such individuals, the inner ear may act as the “shock organ,” where allergic reactions manifest and contribute to the symptoms of the disease.
- **Hypothyroidism:** It has been observed that about 3% of patients with Ménière's disease also suffer from hypothyroidism, and many of these patients show improvement when treated with thyroid hormone replacement therapy.
- **Impaired absorption of endolymph:** Reduced blood supply to the endolymphatic sac has been observed in patients undergoing surgery for Ménière's disease. The inadequate vascular supply of the sac may impair its

normal function and lead to defective absorption of endolymph.

- Sodium and water retention: Excess retention of sodium and water in the body may lead to the development of endolymphatic hydrops. [12]

#### ➤ *Pathogenesis*

In general, the theories explaining the cause of endolymphatic hydrops can be broadly classified into the following categories:

- One Theory: proposes that the distension occurs due to disturbances in the formation of inner ear fluid. These disturbances may arise from local changes in capillary permeability or alterations in colloid osmotic pressure. Factors such as sodium retention, allergic edema, and autonomic imbalance have been considered possible contributors to this process.
- Another Theory: proposes that the distension of the endolymphatic system occurs as a result of mechanical obstruction and impaired reabsorption of endolymph. According to this view, endolymph normally passes through the endolymphatic duct and is absorbed by the endolymphatic sac. In Ménière's disease, defective absorption of endolymph by the sac is considered a major factor leading to the development of endolymphatic hydrops.[13]

### III. CLINICAL FEATURES OF MENIERE'S DISEASE

#### A. Sudden and Repeated Attacks of Vertigo. [8,9,10]

A typical vertigo attack has 3 phases:

##### ➤ *Initial Irritative Phase:*

This phase occurs due to an increase in potassium concentration, leading to nystagmus that is typically horizontal or horizontal-torsional in direction. The eye movements usually beat toward the affected ear and the episode generally lasts for less than one hour.

##### ➤ *Second (Paretic) Phase:*

In this stage, nystagmus beats away from the affected ear due to peripheral vestibular hypofunction and a reduction in spontaneous neural activity. This phase usually persists for several hours and may sometimes last for one to two days.

##### ➤ *Third (Recovery) Phase:*

During this phase, nystagmus once again beats toward the affected ear as brainstem compensation begins to occur. This recovery stage may last for several hours and can sometimes continue for one to two days.

#### B. Deafness/Hearing Loss. [8,9,10]

- Diplacusis (double hearing) refers to an abnormal perception of sound, where the heard sound differs from the original sound produced. It can occur in two forms: binaural and monaural diplacusis. In binaural diplacusis, the same sound or tone is perceived differently in each

ear. This condition is commonly reported in Meniere's disease, and patients often describe the sound as distorted or altered.

- Sensitivity or intolerance to loud sounds.
- Tinnitus associated with episodes of headache: It is usually a low-pitched roaring or sometimes a hissing sound that becomes worse during acute attacks. Variations in the intensity or pitch of tinnitus may serve as a warning sign of an impending attack.[8]
- Feeling of fullness in the ears (Aural fullness) [9]
- Emotional stress: [8] Patients with Ménière's disease often experience emotional distress and anxiety because they fear the recurrence of vertigo attacks. [8]

#### ➤ *Examination [8]*

##### • *Otoscopy:*

Otoscopic examination usually reveals a normal tympanic membrane with no visible abnormalities.

##### • *Nystagmus:*

Nystagmus is usually observed during acute attacks, and the fast (quick) phase of the eye movement is directed toward the unaffected ear.

##### • *Tuning Fork Tests:*

Tuning fork tests typically indicate sensorineural hearing loss (SNHL). The Rinne test remains positive, Absolute Bone Conduction (ABC) is reduced, and the Weber test is lateralized to the better (unaffected) ear.

#### ➤ *Investigations [12]*

##### • *Pure Tone Audiogram*

Ménière's disease is characterized by low-frequency sensorineural hearing loss (SNHL) that is fluctuating and gradually progressive, often accompanied by a stable high-frequency hearing loss. The average pure-tone hearing loss is usually around 50 dB, while profound hearing loss is uncommon in most patients.

##### • *Special Audiometry Tests.*

- ✓ Recruitment test
- ✓ Short increment sensitivity index (SISI) test
- ✓ Tone decay test

##### • *Speech Audiometry:*

The average speech discrimination score in patients with Ménière's disease is approximately 53%.

##### • *Glycerol Test:*

The glycerol test is performed by administering glycerin at a dose of 1.5 g/kg, mixed with an equal volume of juice. After ingestion, serial audiometric tests are conducted over a period of three hours to evaluate changes in hearing levels.

A positive result is indicated by either a 25 dB improvement at three consecutive frequencies or an increase of about 16% in speech discrimination scores.

- *Electronystagmography (ENG):*

In electronystagmography testing, the caloric response is found to be significantly reduced in about 48–73.5% of patients with Ménière's disease, while a complete absence of response is observed in approximately 6–11% of cases.

- *Caloric Test:*

In the caloric test, canal paresis on the affected side and/or directional preponderance toward the healthy ear is observed in approximately 75% of patients with Ménière's disease.

- *Diagnosis:*

During otoscopic examination, the tympanic membrane appears normal without any visible abnormalities. Nystagmus is typically observed only during acute attacks, and the fast phase of the eye movement is directed toward the unaffected ear. Tuning fork tests indicate sensorineural hearing loss (SNHL), where the Weber test lateralizes to the better ear, the Rinne test remains positive, and Absolute Bone Conduction (ABC) is reduced. Further investigations, including in vivo observation of endolymphatic hydrops (EH) in patients, have suggested that EH should be considered more as a histopathological marker of Ménière's disease rather than its direct clinical cause. Although EH is strongly associated with hearing loss, the symptoms of Ménière's disease do not always result directly from EH. Moreover, EH has been detected in both symptomatic and asymptomatic ears of patients with Ménière's disease (Liu et al., 2015) [14].

## IV. TREATMENT

### A. General Measures

- *Reassurance*

The patient's anxiety can be reduced through proper reassurance and by clearly explaining the true nature of the disease. This becomes especially important during an acute attack, when symptoms such as vertigo may cause significant fear and distress.

- *Cessation of Smoking*

Smoking should be completely discontinued because nicotine can cause vasospasm, which reduces blood flow to the inner ear. Avoiding smoking may significantly improve symptoms, and in some patients, stopping smoking alone may be sufficient as a treatment.

- *Low-Salt Diet*

Patients are advised to follow a low-salt diet as much as possible. The addition of extra salt to food should be avoided, and the daily salt intake should be limited to about 1.5–2.0 g per day to help reduce fluid retention and inner ear pressure.

- *Avoid Excessive Intake of Water*

Patients should avoid drinking excessive amounts of water, as increased fluid intake may contribute to fluid imbalance in the inner ear and aggravate symptoms.

- *Avoid Excessive Consumption of Coffee, Tea, and Alcohol*

Overconsumption of coffee, tea, and alcoholic beverages should be avoided because these substances can worsen vertigo and other symptoms associated with Ménière's disease.

- *Avoid Stress and Adopt a Healthy Lifestyle*

Patients should try to avoid mental stress and adopt healthy lifestyle changes. Practicing mental relaxation techniques such as yoga and meditation can be beneficial in reducing stress and may help in controlling the symptoms of Ménière's disease.

- *Avoid Activities Requiring Good Body Balance*

Patients should avoid activities that require a high degree of balance and coordination. Since attacks of Ménière's disease can occur suddenly and sometimes without warning, professions such as flying, underwater diving, or working at great heights should be avoided to prevent accidents.[8]

### B. Management of Acute Attack

During an acute attack of Ménière's disease, patients experience severe vertigo accompanied by nausea and vomiting. They often feel anxious and apprehensive, and even head movements can trigger dizziness. Therefore, the treatment during this phase focuses on:

- *Bed Rest*

The patient should be kept on bed rest with the head supported on pillows to minimize movement and reduce the sensation of vertigo.

- *Intravenous Fluids and Electrolyte Replacement*

IV fluids and electrolytes should be administered to replace losses caused by vomiting and to maintain proper hydration and electrolyte balance during the acute attack.

- *Vestibular Sedatives*

Vestibular sedatives are used to relieve vertigo during an acute attack. If vomiting prevents oral intake, these medications can be administered intramuscularly or intravenously. Commonly used drugs include:

- Dimenhydrinate (Dramamine)
- Promethazine theoclate (Avomine)
- Prochlorperazine (Stemetil)

Diazepam (Valium or Calmpose), 5–10 mg IV, may also be given for its tranquilizing effect and its ability to suppress the activity of the medial vestibular nucleus. In some cases, the acute attack can be alleviated with atropine 0.4 mg administered subcutaneously.

- Atropine: In certain patients, the acute attack may be relieved by administering atropine 0.4 mg subcutaneously.
- Vasodilators: Carbogen (a mixture of 5% CO<sub>2</sub> and 95% O<sub>2</sub>) acts as an effective cerebral vasodilator. Its inhalation can improve blood flow to the labyrinth, helping to alleviate symptoms during an acute attack.[8]

#### ➤ *Chronic Treatment*

For the chronic phase of Ménière's disease, management includes:[8,9,10]

- Vestibular sedatives – to control persistent vertigo
- Vasodilators – to improve labyrinthine circulation
- Diuretics – to reduce endolymphatic fluid accumulation
- Propantheline bromide – to decrease inner ear secretions
- Elimination of allergens – in patients with identified allergies
- Hormone therapy – such as thyroid replacement in cases of hypothyroidism

This combination helps in controlling symptoms and preventing recurrent attacks.[8,9,10]

## V. SURGICAL TREATMENT

#### ➤ *Intratympanic Injection of Gentamicin*

Gentamicin is primarily vestibulotoxic and works by damaging the dark cells of the secretory epithelium in the inner ear, which leads to a reduction in endolymph production. This approach is used to help control vertigo in patients with refractory Ménière's disease. [8,9]

#### ➤ *Endolymphatic Sac Surgery*

Surgery on the endolymphatic sac helps to reduce the frequency, duration, and severity of vertigo attacks in patients with Ménière's disease.[8]

#### ➤ *Surgical Labyrinthectomy*

Labyrinthectomy is a surgical procedure that completely stops vertigo attacks, but it does so at the cost of any remaining hearing in the affected ear. [9,10]

#### ➤ *USOOL-E-ILAJ (Principle of Treatment)*

Unani System of Medicine – Therapeutic Principles (*Usoole-Ilaj*)

In Unani medicine, the primary approaches in managing Ménière's disease include:

- *Musakkin* (Sedatives): To relieve vertigo and calm the patient
- *Mufatteh Urooq* (Vasodilators): To improve circulation, especially in the head and inner ear
- *Mudir-e-Baul* (Diuretics): To reduce fluid accumulation and manage endolymphatic pressure
- *Elimination of Khilt-e-Ghair Tabai* (Abnormal Humours): To remove pathological humours that contribute to the disease process.[15]

#### ➤ *Ilaj (Treatment)*

Treatment Philosophy in Unani Medicine

In the Unani system of medicine, the treatment approach is based on *Usool-bil-Zid* (the principle of opposition). Therapy is delivered through four main modalities:

- *Ilaj-bil-Dawa* (Pharmacotherapy): Use of medicinal drugs to correct imbalances
- *Ilaj-bil-Ghiza* (Dietotherapy): Management through dietary modifications
- *Ilaj-bil-Tadabeer* (Regimental Therapy): Use of lifestyle and procedural interventions
- *Ilaj-bil-Yad* (Manual Therapy/Surgery): Physical or surgical interventions when required.[15]

#### ➤ *Ilaj Bil Dawa (Medication)*

Unani Medications for Ménière's Disease Management

- *Musakkin (Sedatives)*:  
To relieve vertigo and calm the patient, the following may be administered:

- ✓ *Khamira Khaskhash*: 3–5 g
- ✓ *Dayaqooza*: 10 ml
- ✓ *Barshasha*: 1 g

- *Mufatteh Urooq (Vasodilators) and Mudir-e-Baul (Diuretics)*:

To improve circulation and reduce fluid accumulation:

- ✓ *Banadiqul Bazoora*: 2 tablets
- ✓ *Sharbat Bazoora*: 20 ml
- ✓ *Sharbat Ustookhudoos*: 20 ml

(Administered in the morning and evening)

- *Decoction for Circulation and Fluid Balance*:

A decoction prepared from:

- ✓ *Tukhme Khayarain*: 10 g
- ✓ *Tukhme Kharpaza*: 5 g
- ✓ *Tukhme Kasni*: 5 g
- ✓ *Kharkhasak*: 7 g
- ✓ *Mako Khushk*: 5 g
- ✓ *Ustookhudoos*: 5 g
- ✓ *Badranjboya*: 5 g

Combined with:

- ✓ *Sharbat Deenar*: 20 ml
- ✓ *Jawarish Jalinoos*: 5 g
- *For Vertigo (Dawar)*:  
✓ *Hareera Maghz Badam*: in the morning  
✓ *Itrifal Kashneezi*: 7 g at night

This combination of sedatives, vasodilators, diuretics, and herbal formulations targets the symptomatic relief of vertigo, tinnitus, and fluid imbalance, following the Unani principles of therapy..[15]

➤ *Ilaj Bil Ghiza (Dietotherapy)*

Dietary Recommendations in Unani Medicine

Patients are advised to follow a diet that is:

- *Jaiyyad-ul-Kaimus*: Easily digestible or regular chyme.
- *Lateef*: Light and non-bulky foods.
- *Saree-ul-Hazm*: Foods that act as quick appetizers and are easily absorbed

Additionally, patients should strictly adhere to a salt-free diet and limit the intake of water, tea, coffee, and alcohol to help control fluid imbalance and reduce symptoms of Ménière's disease.

➤ *Regimental Therapy (Ilaj-bil-Tadabeer)*

In Unani medicine, regimental therapy for Ménière's disease includes:

- Rose Leaf Decoction (*Barge Gulab*): Applied to the head as a medicinal irrigation to soothe and calm the nervous system.
- *Hijama* (Cupping): Performed on the C7 vertebra, neck, and pre-auricular area to improve circulation and relieve vertigo.

Foot Bath (*Pashwiya*): Prepared from a decoction of *Barge Beri* and *Badiyan*, used to promote relaxation and balance body humours. .[15]

## VI. CONCLUSION

Ménière's disease is a condition that requires accurate assessment and the adoption of appropriate management strategies. Factors such as irregular lifestyles, poor dietary habits, and lack of physical activity may contribute to its development. The disease is often underdiagnosed and inadequately treated, with rising incidence observed even in Indian populations. Early intervention is essential to prevent further complications, and Unani medicine offers effective management options. The recommended treatment protocol includes the use of:

- *Musakkin (Sedatives)* – to relieve vertigo
- *Mufatteh Urooq (Vasodilators)* – to improve circulation
- *Mudir-e-Baul (Diuretics)* – to reduce fluid accumulation
- Elimination of *Khilt-e-Ghair Tabai* (Abnormal humours) – to correct pathological imbalances

These measures, combined with *Ilaj-bil-Tadabeer* (regimental therapy), are likely to provide promising results in controlling symptoms and improving the quality of life in patients with Ménière's disease.

➤ *Conflict of Interest*

The authors declare that they have no competing interests.

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