



A RUN DOWN ON MENIERES DISEASE

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ABSTRACT

Meniers disease can be defined as multifarious disorder under voluntary storms of giddiness, altering nerve deafness, constraint and jirklng sounds in the inner ear. The etiology is un-known. The disease is recognized by seeing the patient clinical indications like feeling constraint in the ears, pain in head and eagerness etc. The disease mainly occurs due to alteration in endolymphatic hydrodrops because of that excess endolymph production may occur in this condition. There is no confirmative diagnosis and absolute management for the disease. But, from the past 10 years some medications and section remedies had been used. Mainly, the physicians prescribed the giddiness, medications, diuretics, intra-tympanic steroid injections. Sometimes, we use pressure pulse and cognitive therapy may be used. In case, if the patient had severe clinical indications, then we used the section therapies like vestibular nerve section, vestibular rehabilitation therapy, labyrinthectomy and endo-lymphatic sac decompression are used. complications like deafness and more chances of fall over.

KEYWORDS: Multifarious, jirklng sounds, electrocochleography, cognitive therapy and vestibular rehabilitation therapy.

INTRODUCTION

Meniere's is a disease which can be defined as multifarious disorder,^[3] under voluntary storms of giddiness, altering nerve deafness, ear pressure, and ringing in ears occurs in inner ear.^[2] It is the one, which occurs analytically remarkable disease because it has severe complications for the patient. Unexpected injuries which can damage the person's life career.^[1] Based on biodegradable and congenital factors describes start condition.^[3] The symptom such as intermittent giddiness is one of the most common in this disease. If this disease is undetected, it causes substantial effects like unevenness and mental conditions like fear, sadness, threat and negative effects in geriatrics.^[3] Barany society by Lopez-Escamez et al was defined the present undetected criteria of meniere's disease.^[4] it can detect either probable or definite disease. The main objective of this disease to gain knowledge about merits and demerits of meniere's disease.^[2]

According to the Barany Society patients who have definite meniere's disease

1. Voluntary storms of giddiness that is two or more episodes about minutes to hours
2. Altering nerve deafness
3. Altering ear pressure
4. No diagnosis explains the condition

According to Probable Meniere disease symptoms like

1. Voluntary storms of giddiness that is two or more episodes about minutes to hours
2. Altering nerve deafness
3. Altering ear pressure
4. Diagnosis explains the condition.^[1]

In some unknown cases it occurs serious sickness These are mainly 2 types those are mainly, occurs at just one ear (unilateral MD), in most cases it occurs both ears (bilateral MD). It occurs acute parts of five to nine times in a year and also occurs remission leads to years. Giddiness is the first symptom in this early stage of disease. In some instances, ringing in the ear is the first sign of the condition, occurring before deafness, giddiness, and ear pressure. As the disease progresses, ringing in the ear becomes permanent. In some cases, the time span between the onset of giddiness and deafness can be more than ten years. EH is regarded as the most important histologic marker for the MD. It is the build-up of endolymph in the cochlear duct and sacculus of the inner ear. EH is present in 90% of symptomatic cases of MD. Increased cochlear duct pressure has a detrimental effect on the organ of Corti and other inner ear membranes. However, EH alone does not account for giddiness parts, as histological investigations have revealed EH in patients without MD symptoms.^[4] MD has different aetiology with different mechanisms in different subgroups of patients. The aetiologies behind MD include (otosclerosis), genetic predisposition, viral

or bacterial diseases, autoimmunity, trauma, allergy, and other comorbid conditions. Meniere disease (MD) symptoms can also arise due to smoking or even excessive consumption of alcohol. Excessive salt consumption has also precipitated Meniere disease in some patients. Detrimental effects of the Herpes virus have also been the cause of disease in some patients. Numerous studies have indicated that migraine is more prevalent in MD.

The prevalence ranges from 34.5 to 513 per 100,000 persons, and the incidence varies from 5.2 to 118.8 per 100,000 persons in different countries. Studies have reported that women get affected more often than men. Mostly Meniere disease is seen to affect adults 10–18. Current diagnostic criteria given by Lopez-Escamez et

al. of the Barany Society have specific criteria to distinguish between probable and definite Meniere disease. Diagnostic investigations include pure tone audiometry (PTA), otoacoustic emissions (OAEs), speech audiometry, caloric vestibular test (CVT), video head-impulse test (VHIT), vestibular evoked myogenic potentials (VEMPs) and electrocochleography (ECoChG). Treatment approaches include a variety of drugs such as diuretics, betahistine, steroids, and anti-emetics. Other treatment approaches include invasive and non-invasive methods.^[4,5]

Clinical Subtypes of MD

Frejo et al. classified unilateral MD and bilateral MD into five clinical subtypes using cluster analysis (Table 1), which would improve MD phenotyping.^[5]

Table 1: Clinical Subtypes of MD.

Clinical subtypes	Unilateral MD	Bilateral MD
Type 1	Classic MD	Metachronic SNHL
Type 2	Delayed MD	Synchronic SNHL
Type 3	Familial MD	Familial MD
Type 4	SMD with Migrane	MD with Migraine
Type 5	Autoimmune	MD Autoimmune MD

EPIDIMIOLOGY

Meniere’s disease has widespread variation in 4% per one lakh and 515 per one lakh causes in geriatrics and whitish women. Some hypothesis says that more conditions which detect the menieres disease those are

- 1) Megrim: It happens the patients who detected with Meniere disease, can wrongly imbricate the megrim
- 2) IgG4 related systemic diseases
- 3) Inherited diseases.^[1]

ETIOLOGY

Particular etiology is not known. Various hypothesis says that congenital and natural factors play main role.^[1] Abnormal amount of fluid (endolymph) in the inner ear, but it is not clear what causes that to happen,^[4] ear deafness about >40dB. Giddiness may occur and altering nerve deafness also4.It caused by problem with pressure deep inside the ear. Factors that can increase risk of developing MD include family history of the condition and chemical imbalance in fluid in inner ear.^[1]

RISK FACTORS

- Defective absorption by endolymphatic sac
- Allergies
- Sodium and water retention
- Hypothyroidism
- Autoimmune and viral aetiologies
- Mumps
- Syphills
- Head trauma
- Perevious infection
- Hormonal (Pregnant female are more prone)

PHYSIOPATHOLOGY

From the past 100 years the perfect occurrence of the meniers disease are not understood clearly.^[7-8] In this study bony swap was observed in otic capsule and tissue swap was observed in endolymphatic sac and duct. In nineteen thirty eight endolymphatic hydro drops was primarily observed in the temporal bone of meniers disease patients.^[9] Changes in endolymphatic hydrodrops is the main reason for occurrence of the disease in the majority of patients. The hydrodops may develop due to undermined in the physiopathology of absorption and production of the endolymph. Due to deficiency of permeable capacity of endolymphatic sac and duct excessive endolymph may occur in this condition. But, the several studies may also depends on the (ADH) anti-diuretic hormone in the phsiopathology of meniers disease, and mainly in the production of endolymphatic hydrodrops. In unilateral meniers disease (ADH) anti-diuretic hormone amount has been increased when compared to bilateral meniers disease.

The author Schuknecht et al. explain that the perilymph and endolymph has been mixed suddenly which leads to swap in cochlear and vestibular system which is due to the breakage of labyrinth membrane. But, in the temporal bone we may not see the breakages with menieres disease and the complete clinical features cannot be described through this hypothesis.^[2,9-11]

Clinical Indications

The 4 main clinical indications are

1. Giddiness
2. Deafness
3. Ringing or jirklng sounds in the ear
4. Feeling constraint in one ear

Additional Clinical Indications

1. Pain in head
2. Pain in stomach
3. Retching
4. Eagerness
5. Misery with tachycardia

Diagnosis

There is no reliable unique evaluation to confirm the diagnosis of menieres disease by doctors. The otolaryngologist (simply an ENT doctor) are the doctors that commonly analyse and operate the patients of meniers disease. Auditory evaluation is used for the stretch of auditory dropping by the doctors due to this disease. Certain evaluations for auditory function and steadiness are

Audiometric examination for examining presence or absence of dropping auditory electronystagmogram- for examining steadiness. Electrocochleography- fluid pressure that is present in auris interna. Some queries can be asked by physician regarding his/her previous health conditions and the manifestations that were absorbed by patient itself or by their guardians. Through these manifestations, the patient is requested to magnetic resonance imaging (MRI) or the Computed tomography (CT scan), this can show if the disease is due to other brain related problems.^[2,15]

Treatment

How does physicians treat Meniere's disease?

It is a long-term condition with no permanent cure we can only do symptomatic treatment. Firstly, the pressure on inner ear from high endolymph levels is decreased by the physician which is the starting point of the treatment.

Giddiness Medication

Most of the recommended drugs for the vertigo are

- Drugs for motion sickness: meclizine [Antivert] and diazepam [Valium] spinning sensation which is caused by dizziness is prevented by this drug and also reduces nausea and vomiting
- Diuretics and salt restriction: by taking diuretics [water pills] and lowering dietary intake of salt may be useful in some people to prevent from dizziness by decreasing the amount of fluid which body is retaining, this leads to reduce fluid volume and inner ear pressure.
- Intratympanic steroid injection: steroid is injected to ear drum as a means of controlling the episodes of disease

OTHER TREATMENT

PRESSURE PULSE: treatment for vertigo is recently approved by USFDA the pressure in tympanic cavity affects endolymph levels so a device is used that fits the external auris to puff the pressure filled in tympanic cavity.

COGNITIVE THERAPY

It is atop therapy which helps for people to focus on the life this may sometimes help from stress and anxiety about the Occurance of future attaches.

SURGICAL TREATMENTS

- The patient has severe symptoms and any of the above treatment is not effective then the surgery is a find option
- Vestibular nerve section: vestibular nerve is cutted by surgeon
- Vestibular rehabilitation therapy: this therapy involves exercises and activities that help to prevent from issues such as dizziness and balance symptoms of vertigo and labyrinthitis are copped by this therapy.
- Labyrinthectomy: some part of aurisinterna is removed
- Endolymphatic sac decompression: the bone on every side of endolymphatic sac is removed by surgeon this helps for controlling the water pressure in inner ear if not work properly leads to dizziness.^[2,15-16]

COMPLICATIONS

1. It may develop long lasting deafness
2. Giddiness persist up to one day
3. More chances of getting misfortune
4. More chances of fall over

CONCLUSION

Menieres disease constitute a determined and periodic issue for the forbearing which influence on their well-being, in the course of terrible clinical-indications. By seeing, the clinical indications we can diagnose the disease. The treatment for this disease was doubtless economical for the health-care providers.

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