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Ménière's Disease

Insight into diagnosis and treatment

- What is Ménière's disease?
- What are the causes?
- How is it treated?
- and more...

Affecting the inner ear, Ménière's disease is a condition that causes vertigo (attacks of a spinning sensation), hearing loss, tinnitus (a roaring, buzzing, or ringing sound in the ear), and a sensation of fullness in the affected ear. Because Ménière's disease affects each person differently, your doctor will suggest strategies to help reduce your symptoms and will help you choose the treatment that is best for you.

What is Ménière's disease?

Ménière's disease, also called idiopathic endolymphatic hydrops, is a disorder of the inner ear. Although the cause is unknown, it probably results from an abnormality in the fluids of the inner ear. Ménière's disease is one of the most common causes of dizziness originating in the inner ear. In most cases only one ear is involved, but both ears may be affected in about 15 percent of patients. Ménière's disease typically starts between the ages of 20 and 50 years. Men and women are affected in equal numbers.

What are the causes?

Although the cause is unknown, it probably results from an abnormality in the fluids of the inner ear. The theory is that too much inner ear fluid accumulates either due to excess production or inadequate absorption. In some individuals, especially those with involvement of both ears, allergies or autoimmune disorders may play a role in producing Ménière's disease. People with Ménière's disease have a "sick" inner ear and are more sensitive to factors, such as fatigue and stress that may influence the frequency of attacks.

How is a diagnosis made?

The physician will take a history of the frequency, duration, severity, and character of your attacks, the duration of hearing loss or whether it has been changing, and whether you have had tinnitus or fullness in either or both ears. When the history has been completed, diagnostic tests will check your hearing and balance functions. They may include:

For hearing

- An audiometric examination (hearing test) typically indicates a sensory type of hearing loss in the affected ear. Speech discrimination (the patient's ability to distinguish between

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words like "sit" and "fit") is often diminished in the affected ear.

For balance

- An ENG (electronystagmograph) may be performed to evaluate balance function. In a darkened room, recording electrodes are placed near the eyes. Warm and cool water or air is gently introduced into each ear canal. Since the eyes and ears work in coordination through the nervous system, measurement of eye movements can be used to test the balance system. In about 50 percent of patients, the balance function is reduced in the affected ear.

- Rotational testing or balance platform, may also be performed to evaluate the balance system.

Other tests

- Electrocochleography (ECoG) may indicate increased inner ear fluid pressure in some cases of Ménière's disease.
- The auditory brain stem response (ABR), a computerized test of the hearing nerves and brain pathways, computed tomography (CT) or, magnetic resonance imaging (MRI) may be needed to rule out a tumor occurring on the hearing and balance nerve. Such tumors are rare, but they can cause symptoms similar to Ménière's disease.

How is it treated?

Treatment may include:

- A low salt diet and a diuretic (water pill)
- Anti-vertigo medications, e.g., Antivert® (meclizine generic), or Valium® (diazepam generic)
- Intratympanic injections
- A Meniette® device

Your otolaryngologist will help you choose the treatment that is best for you, as there are things to consider with each. For example, while anti-vertigo and anti-nausea medications will reduce dizziness, they may cause drowsiness. Other treatments also carry both positive implications as well as drawbacks. Intratympanic injections involve injecting medication through the eardrum into the middle ear space where the ear bones reside. This treatment is done in the otolaryngologist's office. The treatment includes either making a temporary opening in the eardrum or placing a tube in the eardrum. The drug may be administered once or several times. Medication injected may include gentamicin or corticosteroids. Gentamicin alleviates dizziness but also carries the possibility of increased hearing loss in the treated ear that may occur in some individuals. Corticosteroids do not cause worsening of hearing loss, but are less effective in alleviating the major dizzy spells. A Meniette® device is another option. This device is a mechanical pump that is applied to the person's ear canal for five minutes three times a day. A ventilating tube must be first inserted through the eardrum to allow the pressure produced by the

Meniette® to be transmitted across the round window membrane and change the pressure in the inner ear. The success rate of this device has been variable.

When is surgery recommended?

If vertigo attacks are not controlled by conservative measures and are disabling, one of the following surgical procedures might be recommended:

- The endolymphatic sac shunt or decompression procedure is an ear operation that usually preserves hearing. Attacks of vertigo are controlled in one-half to two-thirds of cases, but control is not permanent in all cases. Recovery time after this procedure is short compared to the other procedures.
- Selective vestibular neurectomy is a procedure in which the balance nerve is cut as it leaves the inner ear and goes to the brain. While vertigo attacks are permanently cured in a high percentage of cases, patients may continue to experience imbalance. Similar to endolymphatic sac procedures, hearing function is usually preserved.
- Labryrinthectomy and eighth nerve section are procedures in which the balance and hearing mechanism in the inner ear are destroyed on one side. This is considered when the patient with Ménière's disease has poor hearing in the affected ear. Labryrinthectomy and eighth nerve section result in the highest rates for control of vertigo attacks. Although there is no cure for Ménière's disease, the attacks of vertigo can be controlled in nearly all cases.

What are the symptoms?

Symptoms of Ménière's disease include episodic vertigo (attacks of a spinning sensation), hearing loss, tinnitus (a roaring, buzzing, or ringing sound in the ear), and a sensation of fullness in the affected ear. Vertigo is often accompanied by nausea and vomiting. Attacks may last for 20 minutes to two hours or longer and fatigue and an off-balance sensation may last for hours to days. During attacks, patients may be unable to perform their usual activities, needing to lie down until the vertigo resolves.

Hearing loss is often intermittent, occurring mainly at the time of the attacks of vertigo. Loud sounds may seem distorted and cause discomfort. Usually, the hearing loss involves mainly the lower pitches, but over time this often affects tones of all pitches. After months or years of the disease, hearing loss often becomes permanent. Tinnitus and fullness of the ear may come and go with changes in hearing, occur during or just before attacks, or be constant.

What should I do during an attack?

Lie flat and still and focus on an unmoving object. Often people fall asleep while lying down and feel better when they awaken.

How can I reduce the frequency of Ménière's disease episodes?

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Avoid stress and excess salt ingestion, caffeine, smoking, and alcohol. Get regular sleep and eat properly. Remain physically active, but avoid excessive fatigue. Consult your otolaryngologist about other treatment options.