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Otology & Neuro-Otology
Diseases of Hearing & Balance

MENIERE'S DISEASE

Meniere's disease is a common cause of repeated attacks of dizziness. It is due to increased pressure of the inner ear fluids.

Fluids in the inner ear chambers are constantly being produced and absorbed by the circulatory system. Any disturbance in this delicate relationship results in over-production and/or under-absorption of the fluids. This leads to increased fluid pressure (hydrops) that in turn produces Dizziness. This may or may not be associated with fluctuating hearing loss and head noises. Fortunately, this usually affects only one ear in 80% of the patients.

SYMPTOMS

The symptoms of Meniere's disease include episodes of spinning vertigo, hearing loss, tinnitus (a roaring, buzzing, or ringing sound in the ear), and a sensation of fullness in the affected ear. The attacks of dizziness may vary in duration from one to several hours: and can occur suddenly and without warning.

Violent spinning, whirling, and a sensation of being off-balance, associated with nausea and vomiting are common. A feeling of pressure and fullness in the ear is usually present during these episodes.

Attacks of dizziness may recur at irregular intervals. In between attacks, the individual tends to remain free of symptoms.

Occasionally, hearing impairment, head noises, and ear pressure can occur without dizziness. This type of Meniere's disease is called Cochlear Hydrops. Similarly, episodic dizziness and ear pressure may occur without hearing loss and tinnitus; called Vestibular Hydrops. Treatment of both these disorders is the same as treatment of Meniere's disease.

DIAGNOSIS

A physician will take a detailed case history including the following:

1. Frequency, duration and severity of the attacks
2. Duration and fluctuation of hearing loss
3. The presence of tinnitus or fullness

Several tests may be required to confirm the diagnosis:

1. A hearing test to determine the degree and type of hearing loss in the affected ear
2. Videonystagmography (VNG) may be done to evaluate balance function. This test consists of stimulation of the inner ear with warm and cool air.
3. CT scan or MRI may be needed to rule out a tumor, which are rare, but they can cause symptoms similar to Meniere's disease.

4. Auditory Brainstem Response (ABR) measures your response to a click sound and is a screening test for a benign fibrous tumor or a blood vessel pressing on the hearing or balance nerve.
5. Electrocochleography (ECOG) measures the inner ear fluid pressure.

MEDICAL TREATMENT OPTIONS

1. Diet: A low salt diet, 2 - 4 grams per day.
2. A diuretic (fluid pill) to reduce total body fluid.
3. Meclizine or tranquilizers may offer some relief for the acute attack. Suppositories and Scopolamine transdermal patch can be used to control the acute episodes of nausea and dizziness.
4. Betahistine 8 to 16 mg three times a day is an antihistamine that is often beneficial in preventing attacks of vertigo.
5. Oral Steroids can control vertigo attacks and improve hearing, but have significant side effects, such as weight gain, anxiety, and stomach ulcers.
6. Gentamicin injections (administered in the office) through the eardrum eliminates the balance function in the diseased ear. There is a 10% chance of total hearing loss in the injected ear. Multiple injections may be required.

SURGERY OPTIONS

If vertigo is not controlled by conservative treatment and is disabling, a surgical procedure might be recommended:

- Endolymphatic Shunt or decompression procedure is a mastoid operation, that by draining the inner ear fluid controls vertigo in 2/3 of these cases but is not permanent in all cases. Hearing is usually not affected.
- Vestibular Neurectomy is a procedure in which the balance nerve is severed. Vertigo attacks are cured in a high percentage of cases (95%).
- Labyrinthectomy is a procedure in which the balance and hearing are removed on the affected side. This surgery results in the highest rate for control of vertigo.

ALTHOUGH THERE IS NO CURE FOR MENIERE'S DISEASE, THE ATTACKS OF VERTIGO CAN BE CONTROLLED IN MOST CASES.

