

# Integrative Approaches to Ménière's Disease

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## Abstract

Ménière's disease (also called primary Ménière's disease or idiopathic endolymphatic hydrops) is characterized by an excess of fluid in the inner ear, which produces disturbances of balance and hearing.

Symptoms of Ménière's disease include recurring episodes of hearing loss, tinnitus, and vertigo and a feeling of pressure or fullness in the ear. Remissions occur for varying periods of time between attacks, but recurrences can progressively damage the hearing apparatus and eventually lead to permanent hearing loss. The cause of Ménière's disease is unknown.

When the condition occurs secondary to known causes such as infection, trauma, or an autoimmune disease, it is

called Ménière's syndrome or secondary EH.

Patients with Ménière's disease are typically advised to avoid caffeine, nicotine, and alcohol because these substances aggravate symptoms in some cases. Conventional treatment may also include measures to reduce fluid levels in the body (ie, a low-sodium diet [ $\leq 1.5$  g/day] and diuretics), drugs that suppress the vestibular system (eg, meclizine, prochlorperazine, or diazepam), and glucocorticoids. Various surgical procedures may be recommended when medical treatment is ineffective.

A number of natural remedies have shown promise in the treatment of Ménière's disease, but most of these treatments are based on clinical observations or uncontrolled trials.

## Possible Co-Factors

### Reactive Hypoglycemia/Insulin Resistance

Several investigators have found that it is common for patients with Ménière's disease also to have hypoglycemia and/or insulin resistance.<sup>1-7</sup> Hypertriglyceridemia and/or hypercholesterolemia are also frequently found. In patients with these metabolic abnormalities, consumption of a diet designed to improve glucose metabolism and insulin sensitivity (and also low in fat and cholesterol, if appropriate) resulted in improvement in symptoms of Ménière's disease in a high proportion of cases. While some investigators combined dietary modification with other treatments, such as nutritional supplements, thyroid or adrenal hormones, and sodium fluoride, the bulk of the evidence suggests that diet therapy by itself is beneficial.

Of 50 patients with Ménière's disease who underwent a 5-hour glucose-insulin tolerance test, 70% had elevated insulin levels suggestive of insulin resistance. In most cases, performance of a standard glucose tolerance test alone, without concurrent measurement of insulin levels, would have failed to detect any abnormalities of glucose metabolism. Patients with abnormal glucose-insulin tolerance tests were prescribed a low-carbohydrate, high-protein diet with frequent feedings. Cholesterol and/or fat intake was also restricted in the 18% of patients who had hyperlipidemia. After beginning dietary treatment, 92% of the patients achieved control of their vertigo (defined as being free of vertigo spells for 10 times the average interval between spells before treatment). Hearing returned to normal in 8% of patients and tinnitus disappeared in 10%.<sup>5</sup>

In another trial, 103 patients with Ménière's disease or Ménière's disease-like symptoms unresponsive to conventional medical and surgical treatment underwent a 5-hour glucose tolerance test. Eighty patients (77.7%) had an "exaggerated" curve (this was not defined in the study) and an additional 17 patients (16.5%) had a flat curve; thus, 94.2% of the patients had an abnormal test.

In addition, triglyceride levels were elevated in 24% of the patients. Patients who had any of these metabolic abnormalities were advised to avoid refined sugar (and other refined carbohydrates), caffeine, and alcohol and also to snack between meals.

Dizziness disappeared completely in 60.2% of the patients and improved in an additional 24.3% (total with improvement or complete relief, 84.5%). Hearing improved in one-third of the patients. Tinnitus disappeared completely in 16.5% of the patients and improved in an additional 37.9% (total resolved or improved, 54.4%). Many patients who improved attempted to go off their diet, but symptoms recurred or worsened within 1 hour to 7 days. Most of the patients were also given sodium fluoride (average dose 50 mg per day) along with calcium (200 mg per day) and vitamin D (400-800 IU per day) as a treatment for inner-ear otosclerosis.<sup>4</sup> It is not clear to what extent, if any, the treatment contributed to their improvement.

Based on this evidence, abnormal glucose metabolism should be considered a potential contributing factor in patients with Ménière's disease, particularly in patients who develop symptoms in the late morning, late afternoon, or middle of the night (when blood glucose levels tend to be lowest) or who crave sweets. In addition to dietary modifications, such as avoiding refined sugar, caffeine, and alcohol and eating frequent meals, supplementation with chromium, magnesium, the B vitamins, and vitamins E and D may be useful for improving glucose metabolism.

### Allergies

Allergy to foods and inhalants appears to contribute to the symptoms of Ménière's disease in some patients.<sup>3,8-12</sup> Avoidance of offending allergens, in some cases combined with desensitization therapy or other treatments, has been found to be beneficial.

One hundred thirty-seven patients with Ménière's disease who had been advised to have allergy treatment answered a questionnaire regarding their symptoms. Patients receiving the

recommended treatment numbered 113, while 24 did not receive the treatment and served as a nonrandom control group. Food allergies were treated by an elimination and/or rotation diet. Inhalant allergies were treated primarily by desensitization, using the skin end point titration method. If there were multiple food allergies or avoiding the offending foods was too difficult, a patient received injections or sublingual drops of the neutralizing dose for each allergenic food, which was established by provocative testing. Of the patients who received allergy treatment, 68.5% experienced improvement in vertigo and dizziness (compared with a response rate of 35.7% in the control group) and 55.9% experienced improvement in tinnitus (compared with a response rate of 33.3% in the control group).<sup>12</sup>

## Nutritional Supplements

### Flavonoids

It has been hypothesized that excessive secretion of endolymph is one of the contributing factors to Ménière's disease. Some flavonoids have been shown to decrease microvascular permeability; these flavonoids might therefore reduce excessive secretion of endolymph. In clinical trials, supplementation with specific flavonoids showed promise in patients with Ménière's disease. One study used a product containing a lemon flavonoid complex, while another used hydroxyethylrutosides (a standardized mixture of semisynthetic flavonoids).

One hundred twenty-two patients with Ménière's disease were treated with Lipoflavonoid (DSE Health Solutions, Edison, New Jersey) at a dosage of 3 capsules 3 times per day, usually for at least 6 months. Three capsules of Lipoflavonoid contain 300 mg each of lemon flavonoid complex and vitamin C, plus small amounts of B vitamins and methionine. The lemon flavonoid complex contained relatively large amounts of eriodictyol glycolide. Of patients treated, 79% improved: 41% experienced an improvement in both hearing and vertigo, and an additional 38% had a lessening of vertigo but no improvement in hearing. The authors of this study pointed out that there is little or no other research on the therapeutic use of eriodictyol; flavonoid research has typically used other compounds.<sup>13</sup>

In another study, 39 patients with Ménière's disease were randomly assigned to receive, in double-blind fashion, 2 g/day of hydroxyethylrutosides or placebo for 3 months, and then the alternate treatment for an additional 3 months. There was no significant difference in outcome between groups, possibly because of a pronounced placebo effect and a carryover effect in patients who received hydroxyethylrutosides first. However, a trend toward greater symptomatic improvement and better hearing was seen more with hydroxyethylrutosides than with placebo.<sup>14</sup>

### Thiamine and Niacin

In an uncontrolled trial, supplementation with a combination of thiamine and niacin produced substantial improvement in patients with Ménière's disease. The study was published in 1940, prior to the enrichment of refined grains with B vitamins. It is not known whether this treatment would be effective in the modern era.<sup>\*15</sup>

In this 1940's study, 20 patients with Ménière's disease were

treated with various dosages of thiamine and niacin. The investigators eventually settled on 250 mg/day of niacin in 5 divided doses and 20 mg/day of thiamine in 2 divided doses. Vertigo resolved in 17 patients and improved markedly in the remaining 3 patients. Tinnitus resolved in 10 patients and improved markedly in the remaining 10. Hearing improved in 12 patients. Benefits were noticeable after 2 to 6 weeks of treatment, and maximum improvement was typically seen after 2 to 3 months. Thiamine and niacin were tried separately in some patients, but only the combination was found to be effective. The improvements were maintained during follow-up periods of up to 6 months, but symptoms recurred if the vitamins were discontinued.<sup>15</sup>

### Vitamin B<sub>6</sub>

In an uncontrolled trial, 15 of 47 patients with Ménière's disease had an improvement in vertigo after supplementation with pyridoxine. The dosage was usually 100 mg/day, administered for an unspecified period of time. Hearing did not appear to improve.<sup>16</sup>

### Magnesium

In an uncontrolled trial, a series of intravenous magnesium sulfate infusions appeared to be beneficial in 14 of 18 patients with Ménière's disease.

In this study, 18 patients with Ménière's disease received a series of slow intravenous infusions of 2.5 g of magnesium sulfate. The treatment was given 2 to 3 times per week for a total of 10 to 20 infusions, depending on the severity of the disease and the response to treatment. In some cases, a series of infusions was repeated after 2 to 3 months. Seven patients had no attacks during a 14-month follow-up period, and an additional 7 patients had marked improvement. Four patients did not improve. In the patients who responded, the improvement was usually gradual.<sup>\*17</sup>

### Endocrine Therapy (Thyroid and Adrenal Hormones)

According to some investigators, suboptimal thyroid or adrenal function can contribute to the pathogenesis of Ménière's disease.<sup>3,11,18-20</sup> Thyroid hormone and, in some cases, adrenal hormones (usually in the form of injectable adrenal cortical extract) have been used empirically, either alone or in combination with dietary modifications and other treatments, with apparent benefit in some patients. One practitioner found that some patients responded to triiodothyronine but not to levothyroxine or desiccated thyroid. Information and precautions regarding the empirical use of thyroid hormone is presented elsewhere.<sup>21</sup> While adrenal cortical extract for injection is currently not available in the United States, it is possible that adrenal glandular tablets would be of some benefit.

Hypothyroidism should be considered in patients who experience fatigue, depression, cold extremities, dry skin, constipation, edema, and menstrual irregularities. Hypoadrenalism should be considered in patients who are underweight, hypotensive, and hypoglycemic and who have allergies and poor tolerance to stress.

\*The patients in this study were said to have Meniere's syndrome, but apparently most had Meniere's disease.

## Conclusion

Ménière's disease is an often-debilitating condition that fails to respond adequately to conventional therapy. While none of the natural remedies discussed in this article have been proven effective by randomized controlled trials, they should be considered among the treatment options for patients with Ménière's disease based on preliminary trial results and low potential for toxicity.

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Alan R. Gaby, MD, a member of the *IMCJ* editorial board, received his medical degree from the University of Maryland. He was in private practice for 17 years, specializing in nutritional medicine, and is past president of the American Holistic Medical Association. Dr Gaby also served as a professor of nutrition and a member of the clinical faculty at Bastyr University in Kenmore, Washington, and gave expert testimony to the White House Commission on Complementary and Alternative Medicine on the cost-effectiveness of nutritional supplements. Currently he is an author and researcher and has developed a computerized database of more than 25 000 individually chosen medical-journal articles related to the field of natural medicine. Dr Gaby is the author of *Preventing and Reversing Osteoporosis* (Prima, 1994) and *The Doctor's Guide to Vitamin B6* (Rodale Press, 1984) and the coauthor of *The Patient's Book of Natural Healing* (Prima, 1999).

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