



Natural Therapies & Prescriptions That Enhance Life.™

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\*Compounding Location

## Customized Medications for the Ear, Nose, and Throat

### Betahistine for Treatment of Acute Vestibular Vertigo & Meniere's Disease

In a randomized, open-label study, 120 consecutive patients with well-established Meniere's disease were treated with betahistine 16 mg tid or 24 mg bid for 24 weeks. Both doses produced a significant improvement in clinical outcome level from baseline to week 24. There was no significant difference between dosage groups regarding improvement in vertigo at any time point during the study. There was no significant difference between groups in the incidence of adverse events, which was low (maximum: headache, 16 mg tid, 16.7% of patients at week 4; 6.7% at week 24). The number of patients reporting adverse events diminished with time.

In a study of 613 Meniere's patients, a dose of 8 mg orally three times daily produced positive results in 80% of these patients. Betahistine has only minimal side-effects and can also be used as maintenance therapy in other forms of vestibular vertigo.

Basic research initially proved that betahistine acts through a vasodilating action on inner ear and cerebral blood flow. Further studies proved that betahistine acts on the central vestibular histaminergic system as a weak H1 agonist and a strong H3 antagonist, improving the process of vestibular compensation, and also works on peripheral labyrinthine receptors, reducing the spontaneous firing rate but not the activity induced by thermal or mechanical stimulation.

A double-blind, multicenter, and parallel-group randomized study compared the efficacy and safety of betahistine dihydrochloride to that of placebo for treatment of recurrent vertigo resulting from Meniere's disease (MD) or paroxysmal positional vertigo (PPV) of probable vascular origin. The betahistine dosage was 16 mg twice per day for 3 months. Compared to placebo, betahistine significantly reduced the frequency, intensity and duration of vertigo attacks. Associated symptoms and the quality of life also were significantly improved by betahistine.

Acta Otolaryngol. 2009 May;129(5):487-92.  
Acta Otolaryngol. 2008 Jul 10:1-6.  
Acta Otorhinolaryngol Ital. 2001 Jun;21(3 Suppl 66):1-7  
Eur Arch Otorhinolaryngol. 2003 Feb;260(2):73-7.  
Acta Otolaryngol Suppl. 2000;544:34-9  
Otolaryngol Head Neck Surg 1999 Mar;120(3):400-5  
Acta Otolaryngol Suppl 1991;479, pp. 44-47

#### Sample Prescription

#### Compounded Medication

*Betahistine 8 mg capsules*

*Sig: Take one capsule three times daily.*

*Disp: #90*

*Refill x 5*

## “Instant Voice” for Performers and Speakers

Singers, actors, speakers or teachers may develop throat irritation that causes them to lose the ability to speak at an audible level prior to an important performance or presentation. Ask our compounding pharmacist about “Instant Voice”, a preparation that can help to soothe an irritated throat and restore the voice.

*International Journal of Pharmaceutical Compounding. 2009 July/Aug 13(4): 336*

### Sample Prescription

#### Compounded Medication

*Instant Voice*

*For Adults only.*

*Sig: Swallow ¼ - ½ tsp every 2 hours as needed, not to exceed 6 doses per day*

*Disp: 60 ml*

*Refill x 2*

## Antifungal Nasal Preparations to Treat Allergic Fungal Sinusitis and Chronic Rhinosinusitis

Allergic fungal sinusitis (AFS) is a form of chronic sinusitis characterized by nasal obstruction, sinus pain, rhinorrhea, and frequent orbital symptoms. These fungal sinus infections are increasingly reported in patients previously thought to have allergies. AFS is difficult to diagnose and complicated to manage. The affected nasal mucosa no longer functions properly, and a cycle of chronic edema, stasis, and bacterial superinfection results. Therapy entails disrupting the inflammatory process so normal function can resume. Systemic antifungal drugs have not been effective for treatment of AFS, primarily because the drugs are not secreted into the nasal secretion. Numerous antifungals including amphotericin, itraconazole, ketoconazole, miconazole, and nystatin have been prescribed and compounded as nasal sprays, drops, and irrigations/douches to treat fungal sinusitis.

At the Department of Otolaryngology, New York Presbyterian Hospital of Columbia and Cornell University, a prospective pilot study investigated the use of topical antifungal nasal spray in addition to systemic steroids and oral itraconazole in the treatment of AFS. Sixteen patients with a history of allergic fungal sinusitis were given fluconazole nasal spray and followed for 3 months. Stabilization or improvement of disease and a decrease in mucosal edema, without significant side effects, was observed in 12 of the 16 patients.

Chronic rhinosinusitis (CRS) is a chronic disease that affects 14.2% of the US adult population. Treatment has been symptomatic and focused on relieving symptoms. In CRS patients, fungi stimulate an inflammatory response, inducing eosinophils to enter the nasal and sinus tissue and ultimately the nasal airway mucus. In the nasal mucus, eosinophils attack and destroy the fungi, and degranulation produces collateral damage injuring the nasal and sinus mucosa, making the mucosa more susceptible to penetration and potential infection. Treatment of CRS, whether medical (intranasal corticosteroids, saline irrigations) or surgical, is aimed at decreasing inflammation and obstruction in the sinonasal passages.

The theory behind the fungal and eosinophilic etiology of CRS has led to use of intranasal Amphotericin B. In clinical studies, topical irrigation with Amphotericin B has been shown to be both a safe and effective treatment for CRS.

At the 2004 annual meeting of the American Academy of Allergy, Asthma & Immunology, David A. Sherris, MD presented findings from a small randomized clinical trial he conducted while at the Mayo Clinic. In a randomized, placebo-controlled, double-blind study, 30 adult patients with chronic rhinosinusitis irrigated their nasal cavities twice daily with either 20 mL of a 0.1 mg/mL solution of amphotericin B or 20 mL placebo. Based on CT findings, patients receiving the antifungal had an average reduction of 8.8% in the inflammatory mucosal thickening compared with an increase of 2.5% in those receiving placebo. Similarly, 70% of the patients receiving amphotericin had an improvement in endoscopy scores, with no change in the placebo group.

*Ther Clin Risk Manag. 2007 Jun;3(2):319-25.*

*Ear Nose Throat J 2004 Oct;83(10):692, 694-5*

*Curr Opin Otolaryngol Head Neck Surg. 2003 Feb;11(1):1-5*

*Am J Rhinol. 2003 Jan-Feb;17(1):1-8*

*Am J Med. 1991 Jun;90(6):685-92*

*U.S. Pharmacist. Feb 2004:86-7*

*www.medscape.com/viewarticle/472455 (accessed 9/7/10)*

### Sample Prescription

#### Compounded Medication

*Amphotericin B 100 mcg/ml nasal irrigation*

*Sig: Rinse each nostril with 20 ml via MAD twice daily*

*Disp: 1000 ml*

*BUD: 14 days*