Response to: Comparison of Intratympanic Methylprednisolone and Gentamicin for Ménière's Disease May Be Misleading
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What is This?
Disclosures

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Comparison of Intratympanic Methylprednisolone and Gentamicin for Ménière’s Disease May Be Misleading

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It was with great interest that I read the article, “The Effect of Intratympanic Methylprednisolone and Gentamicin Injection on Ménière’s Disease,” which appeared in the April 2013 issue.1 I agree with the authors’ conclusions that intratympanic (IT) gentamicin is an effective treatment for Ménière’s disease. However, the way in which the outcomes were assessed could potentially have led to a misleading conclusion. It is accepted that duration of IT steroids is limited to about 3 months,2,4 while gentamicin is a more permanent therapy. Gabra and Saliba reported the rate of complete vertigo control during the 6 months after therapy and for 6 to 12 months after therapy. During these periods, the rate of complete vertigo control after a distant steroid administration would be predictably poor. However, during the 0- to 6-month period the number of vertigo attacks in those treated with steroids was less than half that during the 6 months prior to therapy. Such an outcome would be expected if the steroids eliminated the attacks for the first 3 months and the patients then returned to their baseline. Do the authors have any data on the frequency of vertigo attacks during the initial 3 months after IT steroids? Furthermore, although the number of attacks was assessed in this study there was no report of vertigo severity or other quality of life measures. It would also be of interest to know if the patients who had poor control of vertigo with IT methylprednisolone were offered any further treatment during the 12-month follow-up, and if not why? As the authors mention, there is a “wide range of results concerning vertigo control” with IT steroids (usually dexamethasone), almost all of which are better than the results they report. Is it possible this variation indicates differences in outcome analysis?

In considering IT gentamicin for management of Ménière’s, potential morbidity must be weighed. It was surprising they found a long-term hearing improvement after IT gentamicin, and I was curious if this might be explained by attrition of worse hearing patients. Another major morbidity of gentamicin that is not discussed in this article is loss of peripheral vestibular function that should be expected to occur in the treated ear. Although the imbalance symptoms caused by this may improve with vestibular rehabilitation, this unilateral vestibular hypofunction does not generally occur with steroid treatment. Did the authors assess these symptoms?

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We highly appreciate the interest in our study.

In 2010, Herrera et al1 studied the efficacy of transtympanic injections of 40 mg/mL of methylprednisolone in Ménière’s disease (1 dose per week for 3 weeks). Their follow-up intervals were 6, 12, and 24 months. The percentage of patients with no spells reached 41% after 6 months, 81% after 12 months, and 78% after 24 months. Unfortunately, their results were descriptive without a control group; some of their patients needed an intratympanic gentamicin injection for a refractory Ménière’s disease.

The pharmacokinetics of dexamethasone and methylprednisolone largely differ. A double-blinded randomized study...
conducted by Silverstein et al.\textsuperscript{2} using intratympanic dexamethasone (8 mg/mL) as a short-term therapy for Ménière’s disease showed no benefit over placebo.

Our aim was to compare 2 therapies at 1 year: the intratympanic injections of methylprednisolone (62.5 mg/mL) and gentamicin (26.7 mg/mL), thus avoiding the potential placebo effect of a short-term therapy. Five patients in the methylprednisolone group with disabling vertigo spells were offered further therapy of intratympanic methylprednisolone or gentamicin according to their hearing level.

The studies conducted by Sennaroglu et al.\textsuperscript{3} and Barrs et al.\textsuperscript{4} mentioned in the letter, cannot be compared with our study since both used a different molecule and much lower concentrations (1 mg/mL and 4 mg/mL, respectively).

Therefore, we find it justifiable to rate the vertigo control of our intratympanic steroid regimen during the 6 months after therapy.

A wide variety of results have been obtained with intratympanic injections of dexamethasone, and we agree that the results mentioned are better than what we obtained. But once again, all of these studies focused on low doses of steroids, which, in our opinion, is very likely to explain this difference.

The retrospective character of our study made it difficult to assess the severity of the vertigo spells and the effect on quality of life. We reported a hearing improvement lower than 10-dB with intratympanic injections of gentamicin; its effect on the dark cells decreases the endolymph secretion and therefore decreases the endocochlear pressure, thus, improving hearing.

We did not assess the symptoms of imbalance in the intratympanic gentamicin group, but we consider that with this low-dose regimen administered at 1-week intervals, the adverse effects are minimized as described by Chia et al.\textsuperscript{5} However, we agree with Dr Crane that intratympanic gentamicin’s potential morbidity should be weighed.

Our conclusion showed that intratympanic methylprednisolone to control Ménière’s disease seems to be less beneficial than intratympanic gentamicin.

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