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Preface

Intratympanics Treatment of Inner Ear Disease

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Guest Editors

The application of medications directly to the inner ear by way of the ear canal is certainly not a new concept; physicians have been pouring medications into the ears for the empiric treatment of a variety of ailments for millennia. However, as ushered in by the increasing use of transtympanic gentamicin for Meniere's disease in the 1990s, our application of this mode of treatment has been growing rapidly over the past decade.

Intratympanic delivery offers many obvious advantages over either parenteral or intravenous delivery; a focused application, high drug levels where it is needed most, and the use of a much smaller quantity of medication than would ordinarily be used. Additionally, the advantages of intratympanic delivery go far beyond the treatment of human disease; similar techniques are now employed in the laboratory to pry apart the workings of the inner ear. Although gentamicin is now the most commonly used intratympanic drug, the list has expanded to include steroids, and in the future will likely include other agents such as antioxidants, medications to protect the ear during intravenous ototoxic drug delivery (antibiotics or chemotherapy), growth factors and other neurogenic proteins, and gene therapy vectors (viral or otherwise) delivering an array of proteins to correct metabolic, genetic, or acquired defects. Once the molecular and physiologic developmental sequence of the organ of Corti has been established—and the mechanism for gene delivery has been perfected—the treatment potential of intratympanic drug delivery will be fully realized.

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Because of the increasing popularity of intratympanic drug delivery, it is important that otolaryngologists today understand its background, physiology, and current accepted modes of use. Rather than resort to the empiricism of the ancients, modern otolaryngologists need to approach the entire field of intratympanic drug delivery within the foundation of the scientific method. It is in this spirit that this issue of the *Otolaryngologic Clinics of North America* is presented. We hope it provides clinicians with a better understanding of when and how to use intratympanic drug treatment, why it works, and what we can expect from it in the future.

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