In Which Direction Do We Go - A Commentary

Robert E. Sandlin, Ph.D.
Alvarado Medical Center, San Diego, California, USA

INTRODUCTION

It is proper and fitting that an international journal devoted to the study of tinnitus be published. Drs. Abraham Shulman, Claus-Frenz Claussen and Barbara Goldstein are to be commended for assuming leadership and responsibility for this rather Herculean task.

As one who has been involved for a number of years in managing patients having some form of subjective tinnitus, I share a common interest with many about the various ways in which the disorder is manifested and the several therapeutic approaches used to reduce its debilitating effect on the quality of one's life. It does not require a crystal ball or providential guidance to realize we are far from knowing the causes of, and cures for, subjective tinnitus. I mention, specifically, subjective tinnitus for it constitutes the vast majority of patients seeking some form of permanent or temporary relief. I have observed that some clinicians are prone to accept specific treatment modalities as an absolute resolution to the problem only to discover that such treatment is not beneficial to all patients having subjective tinnitus. Perhaps, we are too eager, at times, to voice support of this or that theory simply because it is new and promises an avenue of clinical discovery. For some, support is given to a certain treatment modality or theoretical model for tinnitus, simply because they fit into their own biased assumptions. For others, a specific method is embraced, or a theoretical model is defended, because it is one with which the individual is identified and through that identification receives some modicum of professional acclaim.

Certainly, these statements are not indictments of any individual or treatment modality. It is, rather, a statement that underscores where we are relative to the state of tinnitus investigation and therapeutic practice. From a certain perspective, such individuals are to be commended for they have published or stated their views and accepted whatever criticism was forthcoming.

MEDICAL AND NON-MEDICAL APPROACHES

The issue of dealing medically or non-medically with tinnitus patients is not one of offering unrealistic remedies or short term solutions, but rather one of offering to the patient a sense that something can be done to assist them in managing their problem. Without question, those of us who work with the tinnitus patient treat the symptom (the acoustic-like sensations) and do not offer, or appear to provide, a cure of the disorder. We tend to seek some safe harbor in providing treatment modalities that will offer as little physiological or psychological compromise as possible to the patient.

When one reviews various approaches to the treatment of tinnitus, it is not infrequent that some are diametrically opposed. For example, from a non-medical model, there are those who feel rather strongly that tinnitus patients must be managed in such a manner that every effort is made to have them ignore, or not think of, the ongoing and persistent sound in their head. Conversely, there are those who feel strongly that psychotherapeutic intervention can best be effective if the patient frequently assesses whether positive changes are taking place, i.e., a lessening of tinnitus loudness or a change in the ability to cope with the problem. Others see the use of a masker device as being of significant value for managing subjective tinnitus. The assumption is that if the tinnitus can be masked by an appropriate signal or noise, the patient will easily adjust to the presence of the external sound. This is because one is constantly exposed to a multitude of environmental sound which, for the most part, are ignored unless they convey some immediate and useful information. Others question the value of such devices and condemn them because they have proven to be of little or no substained benefit. Those opposed to masker use state that the presence of a noise or other masking signals are just as irritating as the tinnitus.

Too many physicians tell their tinnitus patients they must learn to live with the disorder. However well intended, this advice may not resolve the patient's need to find some means of dealing with his or her negative behaviors or actions, which may have significant impact on the quality of life or social interaction with others. For those physicians who use this management strategy, it may be they are uninformed about the variety of treatment approaches available in assisting the patient to "cope" with the problem. The "learn to live with it" advise to the patient ignores emotional and mental states created by persistent tinnitus. All patients do not react the same way. Indeed, some may learn to live with it without significant or observable changes in social conduct, but most

do not. Since patients react differently to tinnitus, it seems less than intelligent to admonish all patients with the same unsupported advice. Unfortunately, there are those few physicians who have told their patients that tinnitus is a precursor to further decline in hearing. Such advise is without clinical foundation, unless specific, diagnostic tests support that contention.

There are those who recommend some form of drug therapy for all patients complaining of tinnitus. Inherent in this approach to patient care is the assumption that all tinnitus has the same underlying cause and, therefore, demands the same type of clinical intervention. While it may be demonstrated, ultimately, there is a common neurological path for subjective tinnitus, such consensus does not exist today. It is true, however, that today's assumptions may turn out to be tomorrow's realities, but this is a significant inductive leap to make when treating the individual having tinnitus.

I agree with Dr. Robert Brummett's[1] statement regarding the use of specific drugs in treating tinnitus:

"Because we do not understand the mechanism by which tinnitus is produced, it is impossible to rationally select a drug that should control tinnitus. However, because so many people are taking a wide variety of drugs for many different reasons, it has been possible to capitalize on some people's spontaneous reports that their tinnitus is relieved when they take certain drugs. These serendipitous discoveries have led to the current armamentarium of drug therapy for tinnitus. At best, though, the current state of knowledge about drug therapy for tinnitus is woefully inadequate."

Most drugs used today in treating tinnitus are not without some risk. Drugs may have side effects potentially more debilitating than the disorder for which they are being used. For example, some currently used drugs (anti-anxiety and anti-depressants) can produce a chemical dependency. One must evaluate whether the trade off is worth it. That is, does the increased ability to cope with the problem outweigh whatever chemical dependency may occur.

For example, the use of Tegretal®, may produce one or more of the following problems: aplastic anemia, anorexia, diplopia, nystagmus, drowsiness, hyper-irritability and emotional disturbances among others. Mysolene® can produce similar sequelae. One must hasten to add that all patients treated with a variety of drugs may not evidence any side effects. Subsequently, drug use should be closely monitored by the physician responsible for its administration.

Fortunately, most physicians treating tinnitus do not recommend sectioning of the VIII nerve as a viable resolution of the problem. However, there have been those who have carried out such procedures only to find that some patients experienced an increase in the loudness of their ongoing tinnitus. Undoubtedly, the clinical assumption underlying this surgical procedure is that the genesis of tinnitus lies within the cochlea and sectioning of the auditory branch of the VIII nerve should eliminate any transmission from the cochlea to the cortex.

There are those who, tentatively, propose a "tinnitus pathway" based on presumptive neurological data. Such a common path for tinnitus is intriguing to contemplate, but general consensus suggests that in-depth clinical investigation needs to be done to support theoretical claims. To isolate a single neural path for tinnitus is fraught with a number of almost insurmountable barriers. Given these barriers, how does one defend a common path when there are so many ways in which tinnitus seems to be expressed? We know, for example, there is a causal relationship between prolonged noise exposure and tinnitus onset. We know there is a causal relationship between TMJ problems and tinnitus onset. We know there is a causal relationship between the ingestion of aminoglycocides and tinnitus onset. We know there is a causal relationship between tinnitus and "whiplash" injury and head trauma. Unfortunately, we know also there are a number of etiologies that have yet to be defined that give rise to subjective tinnitus.

In view of that which is known and that which is conjectured about tinnitus, it is a tremendous undertaking to search for a common path. However, if such a path could be identified, it may be a tremendous boost to the development of an effective treatment plan. Such identification may possibly be viewed as a neurological platform from which to project a cure. Yet, how could a common path exist when there appears to be so many possible causes for subjective tinnitus?

It is a singular interest to recognize that most therapies, medical and non-medical models, used to treat the tinnitus patient have experienced some degree of success. It would be instructive if one could isolate the common denominator among these several therapies responsible for observable, positive changes.

CONCLUSION

The search for answers to cause, treatment and cure of tinnitus is not within the purview of a single professional discipline. Such searches should involve as many disciplines as required.

At the time of this writing, medicine, audiology, dentistry, psychology, pharmacology and psychiatry are chief among those professional groups exploring the extremely complicated nature of subjective tinnitus. This is because tinnitus is symptomatic of a physical disorder which gives rise to a number of human behaviors. It is the task of the

serious investigator to ferret out that which seems to be related to subjective tinnitus and that which is not. It is, perhaps, even a greater task to resolve the number of negative behaviors manifested by those with persistent and potentially debilitating tinnitus. Unfortunately understanding the neuromechanism(s) underlying tinnitus may not contribute, necessarily, a great deal to the resolution of the patient's need to cope with the problem. That is, understanding the neuromechanisms responsible for subjective tinnitus does not always provide an immediate solution to treatment.

The International Tinnitus Journal represents a giant step toward recognizing and encouraging contributions from a number of individuals representing a variety of professional interests. It may serve as a clinical and research platform from which contributors may voice their beliefs. In the final analysis, the contribution of the International Tinnitus Journal may be that of encouraging a marriage between those who seek understanding of the cause and those who treat the patient's debilitating reactions to the disorder itself. To understand one without resolving the other provides only a partial answer.

REFERENCE

1. Brummett R: Drugs for and against tinnitus. Hear Jour 42(11):34-37, 1989.