

Tinnitus: A Stepchild in Our Specialty

K. J. Lee, MD^{1,2} and Keyu Liu³

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Abstract

Many patients are not satisfied with their doctor's answer when they complain about tinnitus. The proposed classification can be used to communicate with patients as well as guide future research. Type A itemizes the treatable causes of tinnitus. Type B itemizes tinnitus with a lack of medical explanation. Type C tinnitus is caused by diagnosable and treatable conditions, as listed in tinnitus type A, but the tinnitus persists after the successful treatment of the other symptoms.

Keyword

tinnitus, noise (in the ear), pulsation (in the ear), ringing (in the ear), humming (in the ear)

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A picture is worth a thousand words. A sound classification is worth 10,000 words.

Many patients, not fully aware of the various possible causes of tinnitus, are not satisfied with their doctors' answer when they complain about noise in the ears. The proposed clarification with classification will be the first step to communicate with patients as well as guide future research. We also hope this commentary will reawaken our sense of responsibility to spend time with patients suffering from tinnitus. As Hippocrates said, "cure sometimes, treat often, comfort always."

Tinnitus is defined as the hearing of sound with no external origin and is usually audible only to the patient. It can be ringing, buzzing, clicking, hissing, roaring, or a pulsation. Only a limited number of causes can be identified, while many tinnitus cases have unknown origins.

Classification

We are introducing a simple classification to facilitate our discussion with patients.

Tinnitus Type A

Tinnitus type A is any case of tinnitus with known causation. The following is a list of possible causes:

Serous otitis media: Besides noting the common etiologies for serous otitis media, it is important to

discuss possible nasopharyngeal pathology, such as carcinoma of the nasopharynx.

Acute and chronic otitis media

A side effect of certain medications

Ménière's disease: Emphasize to the patient that the vertigo and hearing loss may recover, leaving tinnitus as the only lingering symptom.

Acoustic neuroma: Theoretically, it can be called a *brain tumor*, but we need to comfort the patient that acoustic tumor is slow-growing and benign.

Vascular causes: Aneurysm, arteriovenous malformation, or vascular tumors may lead to tinnitus, which in this case is usually pulsatile (equivalent to the pulsation of the heart or the pulse on the wrist). Unlike the inaudible forms of tinnitus discussed earlier, this type of tinnitus can be heard by the examiner using a stethoscope. It is important to inform patients to seek treatment from an expert soon.

Muscular spasm: The temporomandibular joint (jaw joint) is suspended by muscles. Muscular spasms can give rise to tinnitus. Examination includes inspection of the temporomandibular joint, palpation of the joint, and questions about depression and anxiety in the patient's life. Malocclusion of the teeth (misaligned upper and lower teeth) or arthritis in the temporomandibular joint can also be the cause. This type of tinnitus usually but not always resembles a clicking sound, which may be audible to the examiner. Treatments include muscle relaxant, heat and massage, mild tranquilizers, and a referral to a dentist.

Exposure to loud sounds and head trauma: Rock concerts, firing of weapons, explosions, or head

¹Department of Otolaryngology-Head and Neck Surgery, Lenox Hill Hospital, Zucker School of Medicine, Hofstra University, Hempstead, New York, USA

²Section of Otolaryngology-Head and Neck Surgery, School of Medicine, Yale University, Guilford, Connecticut, USA

³Department of Biomedical Engineering, School of Engineering and Applied Science, Columbia University, New York, New York, USA

Corresponding Author:

K. J. Lee, MD, Section of Otolaryngology-Head and Neck Surgery, School of Medicine, Yale University, 669 Boston Post Road, Suite 8, Guilford, CT 06437, USA.

Email: kjlleemd@aol.com

trauma also can lead to hearing loss and tinnitus audible only to the patient. Diagnosis can be made through detailed patient history, physical examination, audiometric studies, and imaging studies. Unfortunately, we need to explain compassionately that, even though it is diagnosable, this kind of tinnitus is not always cured.

Sudden hearing loss: The patient loses hearing suddenly and with no known explanation. Some attribute its cause to allergies and treat it with histamine or antihistamine; some treat with blood-thinning medication and some with steroids, either orally or by injection (through the middle ear into the round window membrane). Because of its unclear origin, patients may be frustrated to hear that the diagnosis is called “sudden hearing loss” when the complaint presented to the doctor is “I lost my hearing suddenly.” The hearing loss and its resulting tinnitus can be cured in some, while others are burdened with persistent hearing loss, tinnitus, or both.

Tinnitus Type B

Tinnitus type B is a case without known causation. In this proposed classification, tinnitus type B is described as idiopathic, referring to its unknown origin and lack of medical explanation. It is caused by none of the conditions listed under tinnitus type A. Sometimes it disappears on its own. In other cases, it remains persistent. Attempts to treat this

type of tinnitus include masking therapy with white noise or other camouflaging sound, hypnosis, or some other form of psychotherapy. There are many forms of treatment for tinnitus type B, but none is very promising.

Tinnitus Type C

Tinnitus type C is caused by diagnosable and treatable conditions, as listed in tinnitus type A, but the tinnitus persists after the successful treatment of the other symptoms. For example, the hearing loss caused by serous otitis media is usually cured, but the tinnitus may persist; thus, such tinnitus will be reclassified as type C.

Conclusion

Doctors and audiologists alike should spend the time and be compassionate toward patients with tinnitus. It is the fear of the unknown that stresses the patients. This proposed tinnitus classification can be valuable in dialogue among health professionals and with patients and families.

Author Contributions

K. J. Lee, senior author providing intellectual input as well as designs of manuscript; **Keyu Liu**, coauthor integrating information provided by senior author, including editing and organization.

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