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"RECENT UPDATES ON TINNITUS EVALUATION AND MANAGEMENT"

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ABSTRACT Tinnitus evaluation commences with comprehensive medical history taking and audiological evaluation, which can provide valuable insight into the nature and extent of auditory disturbances. Additionally, tinnitus evaluation includes investigation of psychosomatic comorbidities to determine the intricate interplay between psychological factors and tinnitus perception. Various therapeutic approaches are available to minimize the burden of tinnitus.

KEYWORDS : Tinnitus, Cognitive behavioral therapy, Counseling, Drug therapy, Hearing aids, Neurofeedback

INTRODUCTION:

Tinnitus is not an uncommon symptom; instead, it is a prevalent condition that does not vary significantly based on gender but tends to increase with age. The annual incidence of tinnitus is approximately 1%. About 14% of adults experience some form of tinnitus, while 2% experience a more severe manifestation.

Tinnitus is the conscious perception of a tonal or composite noise without any identifiable external acoustic source. More recently, a novel concept known as tinnitus disorder has emerged. Tinnitus disorder can be defined when tinnitus associated with emotional and/or cognitive dysfunctions, along with autonomic arousal leading to behavioral changes and functional disability, are observed.

Basic Assessment For Tinnitus:

A thorough medical history assessment is crucial. essential steps for a com-prehensive tinnitus evaluation, including ear endoscopy, Puretone audiometry, speech audiometry, tympanometry, auditory brainstem response, and otoacoustic emissions. Additionally, tests for spontaneous nystagmus and provocative nystagmus should be performed, along with a crucial manual examination of the masticatory apparatus and the cervical spine. A comprehensive diagnostic workup involving audiological assessment and identification of hearing loss should be carried out as the initial step. Additionally, concurrent psychosomatic comorbidities such as anxiety, depression, and severe stress should be assessed.

Overview of Current Tinnitus Treatments:

- Cognitive behavioral therapy for tinnitus: CBT focuses on modifying negative thought patterns and behaviors related to tinnitus. It employs techniques such as cognitive restructuring, behavior activation, exposure therapy, and problem-solving.
- Acceptance and commitment therapy (ACT) encourages individuals to accept thoughts and emotions without judgment, guiding them toward value-driven actions.
- Tinnitus retraining therapy TRT aims to habituate individuals to tinnitus by combining counseling and sound therapy. Current results are inconclusive.
- Tailor-made notched music therapy (TMNMT) uses music with tinnitus-frequency removed. It may be helpful, especially for individuals who prefer music-based interventions.
- Hearing aids for individuals with hearing loss and tinnitus. HA compensates for auditory deprivation, reduces attentional focus on tinnitus by amplifying the ambient environmental sounds, and reverses central changes related to tinnitus in the auditory brain.
- Cochlear implant is recommended if HA is insufficient and for profound hearing loss and tinnitus. Advantages of CI for single-sided deafness, underscoring its positive impact on speech perception, tinnitus control, sound localization, and overall quality of life.
- Neuromodulation Guidelines advise against neuromodulation due to a lack of placebo-controlled studies or proven efficacy.
- Neurofeedback shows promise in reducing tinnitus distress by manipulating brainwave patterns.
- Pharmacotherapy Some drugs such as betahistine, Ginkgo biloba extract, antidepressants, benzodiazepines, zinc, melatonin, cannabis, oxytocin, steroids, and gabapentin have been found ineffective for chronic tinnitus, and these drugs should not be recommended
- Dietary supplements Recent guidelines advise against using dietary supplements due to insufficient evidence. While some studies suggest links between certain nutrients and tinnitus, more research is needed.
- Other surgeries Apart from CI, one of the most performed surgeries for tinnitus is sigmoid sinus resurfacing surgery. Patients with venous pulsatile tinnitus experience tinnitus synchronized with their heartbeat, and ipsilateral neck compression directly alleviates tinnitus and improves low-frequency hearing loss. The elimination of pulsatile tinnitus after compression has been reported as an excellent prognostic factor following repair of the sigmoid sinus. Middle ear myoclonus (MEM) is another condition that can be surgically treated to ameliorate tinnitus. A simple trans canal endoscopic resection of the stapedial tendon and/or tensor tympani tendon is necessary for this procedure. On the other hand, intratympanic Botox injection has been introduced and is under study.
- Physiotherapy and head and neck manipulation can benefit tinnitus influenced by orofacial factors like temporomandibular disorder or neck pain.
- Others Virtual reality, Smartphone applications, Photobiomodulation Need more validations.

CONCLUSION:

When treating patients with tinnitus, the initial steps involve conducting a detailed medical history assessment, checking for abnormalities in the auditory system, identifying any accompanying psychological issues, and evaluating the severity of tinnitus discomfort through auditory tests and questionnaires.

REFERENCES:

1. Jarach CM, Lugo A, Scala M, van den Brandt PA, Cederroth CR, Odone A, et al. Global prevalence and incidence of tinnitus: a systematic review and meta-analysis. JAMA Neurol. 2022;79:888–900.
2. De Ridder D, Schlee W, Vanneste S, Londero A, Weisz N, Kleinjung T, et al. Tinnitus and tinnitus disorder: theoretical and operational definitions (an international multidisciplinary proposal) Prog Brain Res. 2021;260:1–25.
3. Tunkel DE, Bauer CA, Sun GH, Rosenfeld RM, Chandrasekhar SS, Cunningham ER, Jr, et al. Clinical practice guideline: tinnitus. Otolaryngol Head Neck Surg. 2014;151(2 Suppl):S1–40.
4. Mazurek B, Hesse G, Dobel C, Kratzsch V, Lahmann C, Sattel H. Chronic tinnitus. Dtsch Arztebl Int. 2022;119:219–25.
5. Ogawa K, Sato H, Takahashi M, Wada T, Naito Y, Kawase T, et al. Clinical practice guidelines for diagnosis and treatment of chronic tinnitus in Japan. Auris Nasus Larynx. 2020;47:1–6.
6. Lee SJ, Lee SY, Choi BY, Koo JW, Hong SH, Song JJ. Preoperative significance of ipsilateral manual neck compression in patients with pulsatile tinnitus secondary to sigmoid sinus dehiscences and diverticula. Front Neurol. 2022;13:869244.
7. Moon S, Yeon EK, Son HO, Choi JW. Transcanal endoscopic stapedial and tensor tympani tenotomy for middle ear myoclonus: a retrospective case series of surgical outcomes. Otol Neurotol. 2023;44:478–82.