Case Report

Clinical approach to auditory malingering in an adolescent

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ABSTRACT

Background: Cases of auditory malingering are frequently encountered in medical practice, but there was very limited scientific evidence on the characterization of auditory malingering in children and adolescents. **Purpose:** To provide a comprehensive description of an auditory malingering case in an adolescent. **Case Report:** A 14-year-old boy came with complaints of sudden bilateral deafness, for the last three months. Hearing examination findings were within normal limits. **Discussion:** An objective hearing examination was necessary to complement subjective assessments in establishing the diagnosis of hearing loss. In this case, following normal auditory findings and subsequent consultations, the patient admitted that he had feigned his symptoms to avoid bullying by his friends, who mocked him for never having visited Jakarta. **Conclusion:** The examination of hearing function should involve not only subjective hearing examinations, but also objective hearing examinations to establish a diagnosis of hearing loss.

Keywords: hearing loss, hearing examination, malingering

ABSTRAK

Latar belakang: *Kasus* malingering *yang melibatkan organ pendengaran cukup sering ditemukan dalam praktek kedokteran sehari-hari, namun bukti ilmiah yang mendeskripsikan kejadian* malingering *pendengaran pada anak-anak dan remaja masih sangat terbatas.* ***Tujuan:*** *Untuk menyampaikan secara komprehensif suatu kasus* malingering *pendengaran pada seorang remaja.* ***Kasus:*** *Laki-laki usia 14 tahun datang dengan keluhan mendadak tidak dapat mendengar pada kedua telinga sejak 3 bulan terakhir. Hasil pemeriksaan fungsi pendengaran dalam batas normal.* ***Pembahasan:*** *Pemeriksaan fungsi pendengaran secara obyektif diperlukan untuk menegakkan diagnosis gangguan pendengaran. Pada kasus ini, setelah temuan pendengaran yang normal dan konsultasi lanjutan, pasien mengaku telah memalsukan gejalanya untuk menghindari perundungan teman-temannya yang mengejeknya karena belum pernah mengunjungi Jakarta.* ***Kesimpulan:*** *Pemeriksaan fungsi pendengaran sebaiknya tidak hanya dilakukan pemeriksaan pendengaran subyektif saja, namun diperlukan juga pemeriksaan pendengaran obyektif untuk menegakkan diagnosis gangguan pendengaran.*

Kata kunci: *gangguan pendengaran, pemeriksaan fungsi pendengaran,* malingering

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INTRODUCTION

Hearing, as one of the five special senses possessed by humans, is an essential aspect for sustaining normal growth and developmental processes. Pathologies affecting the external and middle ear may result in conductive hearing loss (CHL), while issues within the inner ear can lead to sensorineural hearing loss (SNHL).[1]

The utilization of objective hearing examinations is becoming increasingly crucial in daily practice, particularly given the prevalence of auditory malingering in routine medical scenarios, estimated globally at 17%. These instances of malingering often arise from the desire to secure rewards or evade adversities, encompassing issues such as absenteeism in school or work, seeking economic compensation, or gaining access to abused drugs.[2] Despite their common occurrence, reported cases of auditory malingering in the literature remain limited, especially concerning children and adolescents in developing countries with resource constraints.

Auditory malingering, also known by various terms such as non-organic hearing loss, pseudohypacusis, functional hearing loss, exaggerated hearing loss, psychogenic hearing loss, hysterical deafness, conversion hearing loss, dissociative deafness, simulated hearing loss, and feigning hearing loss, refers to the deliberate attempt to feign or amplify both physical and/or mental disorders for personal gain.[2] Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) highlights four issues that may lead to malingering: medico-legal issues, complaints of stress and/or disability, non-compliance with medication regimens, and anti-social personality disorders.[3–6]

Diagnosing malingering is frequently a challenging task, necessitating thorough physical, mental, and psychological examinations, with supplementary tests as needed. It is crucial to arrive at a diagnosis of malingering only after considering potential differential diagnoses such as organic causes, conversion disorders, and factitious disorders.[3,5,6] Since there is no targeted treatment for malingering, the approach to suspected cases typically involves patient education and psychiatric interventions, including behavioural therapy, psychotherapy, and comprehensive counselling. The prognosis of malingering cases is often unpredictable and may result in significant legal ramifications, particularly in instances linked to criminal activities.[3]

In the field of Otorhinolaryngology, medical professionals must adeptly distinguish between organic hearing loss and malingering, to preclude potential legal issues in the future. Therefore, this case report aimed to provide a comprehensive description of an auditory malingering case in an adolescent.

CASE REPORT

A 14-year-old boy was presented to our center with bilateral sudden hearing loss, for the last three months. Prior to the onset of hearing loss, the patient reported loud tinnitus in both ears. The patient had undergone successive hearing examinations before being referred to our center, of which pure-tone audiometry findings showed profound bilateral hearing loss with a hearing threshold of >90 dB in both ears (Figure 1). The patient was then referred to our center, a tertiary referral hospital in Jakarta, Indonesia.

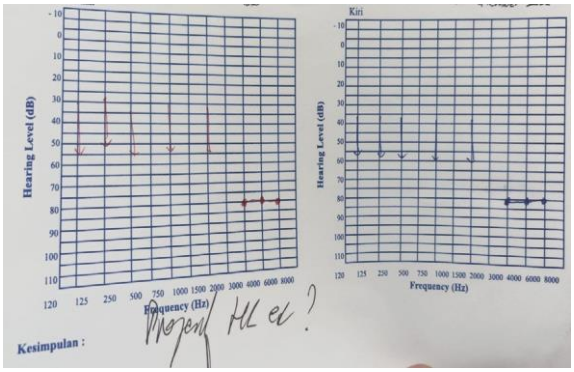

Figure 1. Pure-tone audiometry findings demonstrating bilateral profound hearing loss

The physical examination conducted in our center revealed normal findings in the external ear and the tympanic membranes. Tympanometry results indicated a type A pattern. The Distortion Product Otoacoustic Emission (DPOAE) examination showed PASS results in both ears, suggesting no pathologies in the cochlear outer hair cells (Figure 2), and Auditory Brainstem Response (ABR) tests demonstrated the presence of wave V with a 20 dB of sound stimulus in the right ear and 30 dB in the left ear (Figure 3). Comprehensively, these hearing examinations were within normal limits, showing no pathologies in the external, middle, and inner ear of the patient.

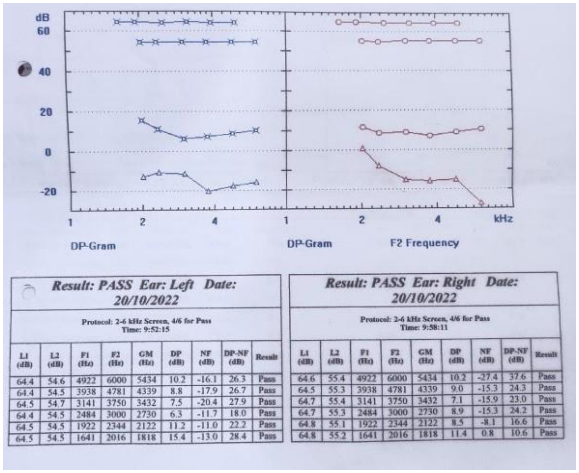

Figure 2. DPOAE tests displaying PASS results in both ears

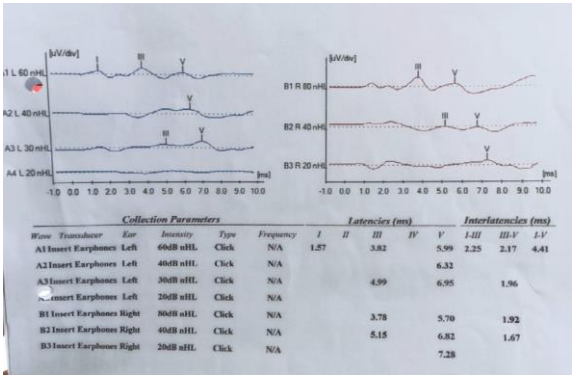

Figure 3. ABR examination showing the presence of wave V with a 20 dB stimulus in the right ear, and 30 dB in the left ear

The patient was subsequently counselled by the ENT specialist without the presence of his parents. He received reassurance that his hearing function was within normal limits, and was asked about any additional symptoms or events leading up to the reported hearing loss. Eventually, the patient confessed to fabricating the sudden bilateral hearing loss to travel to Jakarta, the capital city of Indonesia, as he had been bullied by his friends for never having visited the city before.

METHOD AND RESULT

As this was a rare case, we could not make Evidence Base Case Report (EBCR) for this case.

DISCUSSION

The examination of hearing function in patients complaining of hearing impairment should always begin with anamnesis (history taking) and physical examinations. Anamnesis should include investigating factors and motives driving malingering behavior, while physical examinations should assess structural abnormalities of the external ear, including the auricle, external acoustic canal, and the tympanic membrane.[1]

Based on the requirement for patient cooperation, audiological examinations are categorized into subjective and objective assessments. Subjective examinations may involve simple tuning fork tests for distinguishing types of hearing loss, and pure-tone audiometry which can further identify hearing thresholds.[1,7,8] In contrast, objective screening procedures comprise of tympanometry, the sole objective examination to assess middle ear function, as well as DPOAE, ABR, and Auditory Steady State Response (ASSR), which collectively evaluate the functions of the inner ear and the auditory nerve.[9] Subjective hearing assessments should be generally avoided when dealing

with suspected malingering patients feigning bilateral hearing loss. However, their use can still be considered in patients reporting only unilateral hearing loss.[10]

Subjective hearing examinations encompass a spectrum from straight forward assessments involving the Lombard test and tuning fork, to more advanced testing with pure-tone audiometry.[11,12] In the Lombard procedure, the patient reads a passage while wearing earphones, and the volume is gradually increased in the affected ear. During this test, suspicion of malingering may arise if the patient reflexively raises their voice to read in response to background noise. Furthermore, tuning forks, which can only be performed on patients complaining of unilateral hearing loss, are employed by examiners to subjectively evaluate the patient's hearing function through tests like Stenger's and Teal's.[13]

The Stenger's test involves using two tuning forks with a frequency of 512 Hz, vibrated simultaneously with equal force. The test is performed in two phases: (1) with the tuning forks positioned equidistantly in both ears, and (2) with one tuning fork at the original distance in the normal ear and the other closer in the affected ear. Typically, a patient with organic hearing loss will report an inability to hear the sound in the affected ear during the phase. However, suspicion of malingering may arise if the patient claims not to hear sounds from the healthy ear during the second phase of the test.[13]

In the Teal's test, the tuning fork is positioned on the mastoid of the healthy ear and vibrated. If the patient acknowledges hearing a sound, they are instructed to close their eyes, and the tuning fork, which was previously not vibrated, is promptly placed on the mastoid process of the healthy ear. Suspicions of malingering may arise if the patient insists on hearing a sound.[13]

In contrast, pure-tone audiometry involves gradually increasing the volume from soft to loud. Malingering may be suspected during this test if there are: (1) variable responses to stimuli, such as the patient responding to a 60 dB stimulus and not responding to an 80 dB stimulus, (2) an unmasked difference between the two ears of >80 dB for any frequency of >70 dB across a range of hearing frequencies during air conduction shadow tests, or (3) a difference of unmasked bone conduction of >15 dB between both ears during bone conduction shadow tests.[13]

Unlike subjective hearing examinations, the accuracy of objective hearing examinations does not rely on patient cooperation. These examinations include impedance audiometry, DPOAE, and ABR. Impedance audiometry assesses acoustic reflexes, where theoretically, exposing the patient to sounds greater than 70 dB from their hearing threshold will trigger an acoustic reflex. Therefore, if the reportedly affected ear elicits acoustic reflexes at a stimulus of 70-100 dB across all hearing frequencies, malingering may be suspected.[11,14]

Another examination, DPOAE, evaluates cochlear outer hair cell emission using a sound intensity of around 60 dB, while ABR assesses the presence of wave V in response to auditory stimuli. A patient can be suspected of feigning hearing loss when the result of either test is PASS, indicating no disturbance in outer hair cell emission based on the DPOAE test, or the presence of wave V at a 20 dB sound stimulus in the ABR test. However, it should be noted that these two tests only evaluate the inner ear function without assessing the integrity of central auditory pathways.[13]

In approaching patients suspected of malingering, a conducting physician should perform comprehensive primary and ancillary examinations to confirm the patient's reported complaints before establishing a diagnosis. In our case, objective hearing assessments were essential before establishing the diagnosis of hearing impairment. While subjective hearing examinations might provide some diagnostic

value, these tests were prone to patient manipulation, and thus should not be solely relied upon. When discrepancies between the patient's complaints and objective assessments are found, a private counselling session between the doctor and the patient should be held. These counselling sessions should focus on encouraging the patient to speak honestly and on assessing whether there are any other health issues that led the patient to feign his symptoms, rather than judging the patient for fabricating his symptoms. While the present case did not have any impending legal ramifications, similar cases of auditory malingering involving serious medico-legal issues might also occur. Therefore, it is essential for medical professionals to give extra caution in establishing a patient's diagnosis.

The management of auditory malingering should involve a holistic, comprehensive plan encompassing counselling, psychotherapy, and psychosocial interventions. This should be conducted by a multidisciplinary team consisting of otorhinolaryngologists, psychiatrists, and psychologists. Rather than confronting and questioning the patient's beliefs, the team should focus on creating a cooperative environment so that the patient can comfortably open up about his concerns and the reasons behind the malingering. Additionally, a positive and supportive environment in the patient's family, social circles, as well as the broader communities is also essential in managing patients with auditory malingering.[4,5,7]

In conclusion, this case report illustrated the frequent encounter with auditory malingering in routine medical practice. When dealing with suspected cases of auditory malingering, it is crucial to conduct comprehensive and meticulous assessments before arriving at a diagnosis. Dependence solely on subjective hearing examinations is not advisable; instead, objective hearing examinations should be included in the diagnostic process.

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REFERENCE

1. Newsted D, Rosen E, Cooke B, Beyea MM, Simpson MTW, Beyea JA. Approach to hearing loss. Can Fam Physician. 2020 Nov; 66(11):803–9.
2. Alozai UU, McPherson PK. Malingering. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 [cited 2023 Sep 27]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK507837/
3. Ross CA. Problems with factitious disorder, malingering, and somatic symptoms in DSM-Psychosomatics. 2019 Jul; 60(4):432–3.
4. Galli S, Tatu L, Bogousslavsky J, Aybek S. Conversion, factitious disorder and malingering: A distinct pattern or a continuum? Front Neurol Neurosci. 2018; 42:72-80. doi:10.1159/000475699.
5. Rumschik SM, Appel JM. Malingering in the psychiatric emergency department: Prevalence, predictors, and outcomes. Psychiatric Services. 2019 Feb;70(2):115–22.
6. Zubera A, Raza M, Holaday E, Aggarwal R. Screening for malingering in the emergency department. Academic Psychiatry. 2015 Apr 5; 39(2):233–4.
7. Anil SM, Valdiya P. Factitious disorder: A case report. Med J Armed Forces India. 1998 Jul; 54(3):274–5.
8. Thompson SM. Evaluation of malingering characteristics and strategies during hearing assessment. Audiology Capstones. University of Northern Colorado; 2017. 19(1):38–56.
9. McDermott BE, Feldman MD. Malingering in the medical setting. Psychiatric Clin North Ame. 2007 Dec; 30(4):645–62.
10. Schmidt CM, am Zehnhoff-Dinnesen A, Matulat P, Knief A, Rosslau K, Deuster D. Nonorganic hearing loss in children: Audiometry, clinical characteristics, biographical history and recovery of hearing thresholds. Int J Pediatr Otorhinolaryngol. 2013 Jul; 77(7):1190–3.

11. Kerr AG, Gillespie WJ, Easton JM. Deafness: A simple test for malingering. Br J Audiol. 1975 Jan 12; 9(1):24–6.

12. Gulati A, Sakthivel P, Singh I, Ramji S. The hearing status of preterm infant's ≤ 34 weeks as revealed by otoacoustic emissions (OAE) screening and diagnostic brainstem evoked response audiometry (BERA): A tertiary center experience. Indian J Otolaryngol Head Neck Surg. 2022; 74(Suppl 1):178–83.

13. Lin HC, Shu MT, Lee KS, Ho GM, Fu TY, Bruna S, et al. Comparison of hearing screening programs between one step with transient evoked otoacoustic emissions (TEOAE) and two steps with TEOAE and automated auditory brainstem response. Laryngoscope. 2005; 115(11):1957–62.

14. Brown BS. Objective vs. subjective hearing screening measures in schools. [Dissertations]. Louisiana Tech University; 2011. 1-90 p.