Two different prespectives of musical hallucinations

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Auditory Hallucinations are an abnormal perception of sound in the absence of an external auditory stimulus. They can be simple or complex. Musical Hallucinations (MH) are one type of complex hallucinations. MH that can be songs, tunes, melodies, harmonics, rhythms, and timbres. In contrast to verbal hallucinations in the setting of psychosis, the auditory percepts in MH are involuntary, very similar to tinnitus. Some have suggested that MH represent a “*release phenomenon*” as sensory deprivation eliminates the afferent input to the auditory sensory processing system allowing spontaneous activity to occur in a network, analogous to the *Charles Bonnet syndrome*. Differentiation with subsequent release is proposed to occur due to a decreased cortical auditory input: hearing impairment, structural or chemically modulated disconnection within the auditory pathways, and abnormal excitation of the cortical musical processing modules, among others. MH are often noted to occur in cognitively normal people, however, have been described to occur in the presence of dementia in some cases. The prevalence of musical hallucinations in a general hospital setting has been estimated to be of 0.16%, and 2.5% among elderly subjects with hearing complaints. 26.8% of the outpatient psychiatric patients reported musical hallucinations, while the prevalence rose to 41% among patients with obsessive-compulsive disorder.

Table 1 - Known risk factors for MH: after Sacks and Blom

Hearing impairment Tinnitus Older age Female sex (possibly)
Cerebral pathology: Epilepsy, Brain tumor, Stroke, Hemorrhage, Meningitis, Neurodegenerative disease (Alzheimer’s disease, Lewy body dementia), Neurosyphilis, Localized atrophy, Traumatic lesion
<i>Psychiatric disorder:</i> Schizophrenia spectrum disorder, Bipolar disorder, Psychotic depression, Depression, Obsessive–compulsive disorder, Adaptation impairment, Personality disorder, ADHD, Cocaine dependence
<i>Intoxication:</i> Alcohol, Antidepressants, Opioids, Antibiotics, Beta blockers, Quinine, Salicylates
<i>Miscellaneous:</i> Behçet’s disease, Hashimoto’s encephalopathy, Lyme disease, Electroconvulsive treatment, Cochlear implantation, Sensory deprivation

Case 1.

A 74-year-old woman with no psychiatric history. Was diagnosed with bilateral presbycusis. She complained about difficulty in perceiving communication and auditory hallucinations, experienced at night or in the quiet environment and described as "nice familiar music" and sometimes human voices. This picture was about 4 months of evolution and was accompanied by worsening hearing loss. Otoscopy: no changes. Audiogram: bilateral sensorineural hearing loss, grade 2 on the right and grade 3 on the left. Psychopathological examination without alterations. After placement of the hearing aid and medication with vinpocetine and quetiapine, she improved in hearing capacity and decreased of hallucinations. Follow-up: asymptomatic.

Case 2.

A 75-year-old woman, with a history of hyperthyroidism, mild grade hypoacusis and vertiginous syndrome. First hospitalization diagnosed with transient organic psychotic disorder, with visual hallucinations with delusional interpretation. Medicated with antipsychotic. Second hospitalization she was constantly listening to music that she thought came from an organ played by the "organ girl" who also spoke to the patient "through the wires of electricity". Musical and verbal hallucinations were maintained despite antipsychotic therapy and remitted after the introduction of anticonvulsivants.

Treatment:

Using hearing aids has been shown to treat MH from deafness. Antipsychotics, anticholinesterase inhibitors, anticonvulsivants and antidepressants in the presence of depressive disorder have shown benefits. However, there is no general consensus on first-line options, dosage, and duration of treatment.

Conclusions:

Musical hallucinations can be found in patients with auditory pathology, as well as being part of the psychopathological picture. It is known that MH occur within the context of an individual’s culture. The main points of differential diagnosis are the presence or absence of insight and other psychiatric symptoms.

Sources:
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