

Auditory Hallucinations in an Adolescent With Cochlear Implant: A Case Report

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Background

- Hearing impairment is associated with increased risk of psychotic experiences.
- Cochlear implantation may alter auditory processing and cortical organisation.
- Distinguishing sensory-related hallucinations from psychosis is clinically challenging.
- Limited literature exists regarding psychosis in adolescents with cochlear implants.

Case Presentation

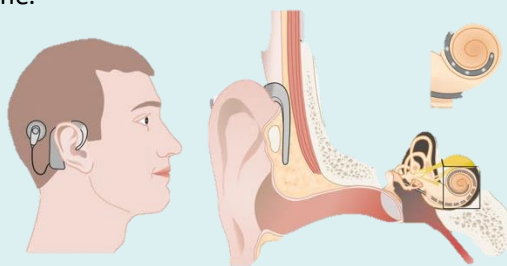
A 15-year-old female with bilateral congenital sensorineural hearing loss treated with cochlear implantation presented with a three-month history of vivid auditory hallucinations described as external voices commenting on her behaviour and issuing threats. She subsequently developed persecutory delusions and impaired insight. There was no prior psychiatric history, and her developmental and psychosocial functioning had previously been age appropriate. There was a family history of hereditary deafness but no psychiatric illness.

The clinical presentation was associated with a marked decline in academic performance and social functioning. She required her maid to remain in close proximity due to distress related to psychotic symptoms and reduced functioning.

Olanzapine was initially commenced with partial improvement in symptoms; however, the patient developed hyperprolactinaemia (>1000). Olanzapine was subsequently discontinued and Aripiprazole 7.5 mg was commenced due to its favourable side effect profile. Following medication adjustment, there was significant improvement in psychotic symptoms, functioning, and independence, including successful return to school.

Discussion

- Auditory hallucinations in individuals with hearing impairment may arise secondary to sensory deprivation, cortical reorganisation, and altered auditory processing following cochlear implantation. Hallucinations associated with sensory phenomena are typically characterised by preserved insight and absence of complex delusional frameworks.
- In this case, the presence of persecutory delusions, impaired insight, and significant functional deterioration supported a diagnosis of first-episode psychosis rather than a sensory phenomenon. Existing literature suggests hearing impairment is associated with an increased risk of psychotic experiences, potentially mediated by social isolation and neurodevelopmental factors.
- The literature regarding psychosis in adolescents with cochlear implants remains limited. This case highlights the importance of careful psychiatric assessment to avoid misattribution of psychotic symptoms to sensory impairment alone.



Conclusions

This case demonstrates the diagnostic complexity of auditory hallucinations in adolescents with hearing impairment and cochlear implants. The presence of structured delusions, impaired insight, and marked deterioration in functioning supported a diagnosis of first-episode psychosis. Careful clinical assessment is essential to distinguish psychotic illness from sensory-related phenomena. Further research is needed regarding psychosis in adolescents with cochlear implants.

References –

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