Auditory Processing Deficits in mTBI Adults
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Introduction

Some adults with clinically normal hearing have substantial suprathreshold auditory deficits, especially in acoustically complex listening situations. Unlike specialized testing is conducted, auditory processing deficits may go undiagnosed.

Research has demonstrated that some patients with a history of mTBI present with abnormal auditory processing deficits. The present study, therefore, was to target self-perceived hearing and communication difficulties of adults with a history of mTBI and subjective complaints of hearing difficulty.

Materials and Procedures

1. Adult i2 auditory processing data is presented for:
   1.1. Adult 35 years of age (female) with subjective hearing difficulties (HD) and a negative history of mTBI;
   1.2. Adult 40 years of age (female) with subjective hearing difficulties (HD) and a negative history of mTBI;
   1.3. Adult 35 years of age (female) with subjective hearing difficulties (HD) and a negative history of mTBI;

2. Subjects with a history of mTBI were tested in quiet and in noise with the following tasks:
   2.1. Self-perceived hearing and communication difficulties
   2.2. Auditory processing difficulties

3. Behavioral Measures
   3.1. Monaural Right, Left, and Binaural at -4, 0, and +4 dB SNRs

4. Auditory Processing Deficits
   4.1. The HD and mTBI groups performed below the normal range (normative group) for at least one of the four auditory processing measures.

Conclusions

1. The four cases presented demonstrate the need for testing beyond the standard audiological evaluation, as clinically normal pure tone thresholds are unable to predict suprathreshold auditory processing deficits.

Discussion

The present study aimed to identify and characterize hearing complaints among adults with a history of mild traumatic brain injury (mTBI) and clinically normal hearing. Self-perceived subjective auditory and cognitive deficits were measured via questionnaires. Central auditory function was measured behaviorally with speech-in-noise, speech-in-spatialized noise, and dichotic speech recognition tests, and a bialar release from masking task. Results suggest that individuals with mTBI have poorer performance relative to a control group on both self-reported and objective measures of auditory function.

References


