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Behavioral and electrophysiological results in auditory processing disorders

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Aim: The present study aimed to describe the performance of patients referenced to auditory processing assessment and associate findings to age, gender, complaints and also correlate behavioral and electrophysiological findings.

Methods: Cross-sectional descriptive study. Patients referenced to the audiology service for auditory processing assessment were included in the study. All patients underwent tonal audiometry, tympanometry, acoustic reflexes, behavioral and electrophysiological measures. Selected behavioral procedures included dichotic tests, monaural low redundancy tests, temporal processing tests and binaural interactions tests. Auditory brainstem response (ABR), middle latency responses (MLR) and P300 were the electrophysiological measures. Chi square and Fisher's exact test were used at statistical analysis to associate categorical variables, followed by Kappa's to observe the degree of associations. T test and Mann-Whitney were also used. Variables distribution was assessed with Kolmogorov-Smirnov and a p-value of 5% was adopted.

Results: Patient's main complaint was learning disability and behavioral results which indicated maximum disorders in auditory temporal processing aspects and dichotic listening. Correlation was observed between behavioral and electrophysiological measures, particularly auditory closure and MLRs, temporal ordering and MLR and P300, dichotic listening and P300, binaural interaction and acoustic reflexes.

Discussion: Individuals with learning disabilities may present maturational delay in cortical structures related to auditory abilities assessed with behavioral and electrophysiological measures. Both measures are relevant in diagnosing auditory processing disorders and directing auditory intervention plans.

Conclusion: Most patients referred to auditory processing assessment presented some learning complaint. Difficulties in temporal processing and dichotic listening tasks were the most prevalent. Electrophysiological measures helped diagnosis become more precise with correlation in many auditory aspects.

Biography

Luciana Macedo de Resende is a Speech-Therapist and Audiologist. She completed her Graduation and Post-graduation and is a Professor at Federal University of Minas Gerais (UFMG), Brasil, and a Doctor in Human Communication Disorders. She develops research with biomedical engineering research group at UFMG as well as part of the research group CTBG/UFMG (Congenital Toxoplasmosis Brazilian Group).

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