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Auditory brainstem response to level-specific CE-CHIRP® threshold estimation in normal-hearing adults

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Background: The aim of the present study was to compare the hearing thresholds between pure tone audiometry (PTA) and auditory brainstem response (ABR) from level-specific (LS) CE-Chirp® and click stimuli in normal adult subjects. **Materials and Methods:** Twenty-four adults with normal audiometric thresholds participated in the study. The ABR was recorded from the study participants at 80 dBnHL until their respective auditory thresholds using both the LS CE-Chirp® and click stimuli. **Study Design and Statistical Analysis:** A quasi-experimental study design was used. Audiometric thresholds (low frequencies [LFs], mid frequencies [MFs], and high frequencies [HFs]) and the ABR thresholds from both stimuli were compared using the Friedman test with Wilcoxon signed-rank test as the post hoc analysis. **Results:** No statistically significant difference was identified between the PTA and the ABR to LS CE-Chirp® thresholds at LFs and only small differences (<6 dB) median thresholds differences were identified at the MFs and HF. The amplitudes of wave III and V were larger for ABR to LS CE-Chirp® as compared to the ABR from the click stimulus. **Conclusion:** This study concluded that the ABR to LS CE-Chirp® has closer thresholds than the audiogram as compared to the ABR from click in normal-hearing adult subjects. At the suprathreshold (80 dBnHL), the ABR amplitudes of wave III, and V were larger in LS CE-Chirp® than the click stimulus. © 2020 Wolters Kluwer Medknow Publications. All rights reserved.

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