

Comparison Between Behavioral Thresholds and Brain-stem Evoked Response Audiometric Thresholds *

MANOJ KUMAR

The present study was done with an aim to establish the relationship between behavioral thresholds and ABR thresholds, using 10 normal and 10 pathological subjects.

The frequencies tested were 2 KHz, 4 KHz and 6 KHz. The scale was set to 2,048 samples and 2 μ V/Div. Sample time of 10 msec was chosen and rate of presentation was kept constant at 20/sec.

It was determined that in normals the wave V threshold had approximately 28-5 dB of the behavioral thresholds. For the mild to moderate sensorineural hearing loss subjects the wave V thresholds are approximately 22 dB of the behavioral threshold.

Implications of the Study

Several investigators have demonstrated that normal subjects yield ABRs to stimulus intensities that closely approximate

their subjective thresholds for the stimulus. Patients with hearing loss now even can yield response, thresholds that are elevated by varying degrees above the normal subjective thresholds for the stimulus.

The results expressed in Audiograms 1 and 2 approximates Seitz *et al.* (1979) results who found that the wave V thresholds holds to a 4,000 Hz tone burst was "well within" 15 dB of the audiometric loss at that frequency in 80% of 10 patients with sensorineural hearing loss.

The study to a certain extent answers the question regarding the correspondence between the elevated ABR threshold and the degree of hearing loss, a patient has for audiometric stimuli.

Limitations

The study was limited to only right ear threshold for the 10 normal subjects.

The age factor was not comparable for the two populations, *i.e.*, the sensorineural hearing loss cases and normal subjects.

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