NEUROLOGY

1130 AUDITORY THRESHOLD IN PRETERM INFANTS.

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Auditory evoked brainstem and slow cortical potentials(AEBP) (SCP) were studied in 4 preterm infants with gestational ages(GA) less than 28 weeks. Weights ranged from 560-850 gms. AEBP were measured as responses to auditory clicks at sound intensities of 25,45& 65 dBSL. 75 dBSL clicks were used in two infants. 10 clicks per sec were presented monaurally and responses to 2048 clicks were amplified and computer averaged. 256 clicks at a rate of 1/sec at 65 dBSL were averaged for the SCP. No AEBP were obtained in 3 infants at 25 and 26 weeks GA at 25, 45 & 65 dBSL. One infant at 26 weeks had only 2 identifiable waves, I & IV-V. An increase to 75 dBSL resulted in the appearance of BP in 2 infants. 65 dBSL clicks however resulted in SCP with a negative-going deflection between 100 and 200 msec. 2 of the infants developed clearly defined waves 2-3 weeks later at 65 dBSL.

The basis for this threshold difference is unclear, but may be due to technical factors favoring the larger amplitudes in CP (1-10μV) over BP (<0.5μV), different requirements for neural synchrony of CP & BP or a change in cochlear responsiveness during maturation.

We have shown auditory function as measured by AEBP and SCP to be present as early as 25 weeks GA and that SCP are elicited at lower intensities than required for AEBP.