CHAPTER 8

CONCLUSION AND FURTHER DEVELOPMENT

Age and sex are two factors can significantly affect the BAEP waveform components of different subjects. The effect of age is due to anatomical and physiological changes in the peripheral and central auditory system that can be associated with aging (Kirikac, 1964 and 1969). The sex differences in females can be due to the relatively smaller dimension of the female Central Nervous system (CNS) and neural transmission time. So the clinical implication of the age and sex effect on the BAEPs waveform can be important and recording BAEPs without consideration of these factors easily contribute to inaccurate clinical interpretation. Investigation on effect of increasing age and sex differences on BAEP waveform component characteristics was one of the aim and objective of this study and the possible range of absolute peak latency and interpeak latency changes between different age group subjects with sex differences are clearly discussed in sections 7.2.2., 7.3.2. and 7.4.2. Since the effect of age and sex factors on different BAEP waveform components were significant and these changes should be considered by interpretator or neurophysiologists while interpretation, in future development a look-up tables indicating the lower and higher level of permitted absolute peaks latency, interpeak latency and amplitudes corresponds with different age group and sex is needed to included with BAEP recording system to help neurophysiologists to compare the recorded BAEPs values with corresponding values in look-up tables while BAEP recording or interpretation for an accurate decision and diagnosis. In actual practice, since the BAEP waveforms are of very low magnitude it needs the integration of the responses from not less than 2000 stimulation. Along with these stimulation period, preparation time and
repetition of the stimulation at least twice, make the entire recording period longer. These definitely will be discomfort to the patients. In future works the new techniques should be developed to get an useful waveform with the minimum number of samples and develop new signal processing to enhance the BAEP waveform. This work can be extended to identify an appropriate stimulating waveform which needs reduced recording time compare to the present value. In present work as well as in previous researches works variations in the complexes of the BAEP shows very little changes in pathological conditions. Since the variations are so small the neurophysiologists may find it difficult in certain cases to identify these variations to overcome these problems. The new technique which was successfully tried in the present work, namely the frequency spectrum analysis could be useful in that. In future a research work taken up in identifying the variation of frequency spectrum in different diseased conduction will help the neurophysiologists to diagnosis easily and accurately.