

Pattern visual evoked potential in response to monocular and binocular stimulation in normal and amblyope subjects

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Abstract

Background: Amblyopia is a relatively common condition with an incidence of ۲-۲,۵% in which visual acuity through an eye is subnormal despite no overt pathology. The use of pattern visual evoked potential (P-VEP) has been the primary technique for electrophysiologically detecting amblyopia in patients unable to undergo conventional testing. This study was performed to evaluate the effectiveness of P-VEP parameters in amblyopic patients under monocular and binocular conditions. Methods: Visual function was measured using P-VEP and Snellen acuity test in ۲۰ children with amblyopia (۱۲ strabismic and ۸ anisometropic amblyopes) and ۲۰ visually normal control subjects. Results: Totally, visual evoked potentials elicited by high contrast small checkerboard patterned stimuli were significantly reduced in amplitude and prolonged in latency in amblyopic eyes. The mean intraocular amplitude difference was significantly larger in amblyopics than in normal groups. There was also no difference between the healthy eye in the amblyopic group and the control one. On binocular viewing, the amount of VEP amplitude was significantly greater in normal subjects than that in both amblyopic groups. Regarding the type of amblyopia, the mean binocular VEP amplitude as compared to that in the non-amblyopic eye was greater for the anisometropic than the strabismic groups. Conclusion: In both amblyopic groups, the VEP responses were significantly reduced in amplitude and prolonged in latency. In binocular viewing, the amount of VEP amplitude was greater in normal subjects than both amblyopic groups. The mean binocular amplitude was significantly greater for the anisometropic than for the strabismic group. ©Iranian Red Crescent Society.

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