World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:9, No:12, 2015

Pattern of Anisometropia, Management and Outcome of Anisometropic Amblyopia

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Abstract : Background: Amblyopia is a frequent cause of monocular blindness in children. It can be unilateral or bilateral reduction of best corrected visual acuity associated with decrement in visual processing, accomodation, motility, spatial perception or spatial projection. Anisometropia is an important risk factor for amblyopia that develops when unequal refractive error causes the image to be blurred in the critical developmental period and central inhibition of the visual signal originating from the affected eye associated with significant visual problems including anisokonia, strabismus, and reduced stereopsis. Methods: It is a prospective hospital based study of newly diagnosed of amblyopia seen at the pediatric clinic of Chittagong Eye Infirmary & Training Complex. There were 50 anisometropic amblyopia subjects were examined & questionnaire was piloted. Included were all patients diagnosed with refractive amblyopia between 3 to 13 years, without previous amblyopia treatment, and whose parents were interested to participate in the study. Patients diagnosed with strabismic amblyopia were excluded. Patients were first corrected with the best correction for a month. When the VA in the amblyopic eye did not improve over month, then occlusion treatment was started. Occlusion was done daily for 6-8 hours (full time) together with vision therapy. The occlusion was carried out for 3 months. Results: In this study about 8% subjects had anisometropia from myopia, 18% from hyperopia, 74% from astigmatism. The initial mean visual acuity was 0.74 ± 0.39 Log MAR and after intervention of amblyopia therapy with active vision therapy mean visual acuity was 0.34 ± 0.26 Log MAR. About 94% of subjects were improving at least two lines. The depth of amblyopia associated with type of anisometropic refractive error and magnitude of Anisometropia ($p<0.005$). By doing this study 10% mild amblyopia, 64% moderate and 26% severe amblyopia were found. Binocular function also decreases with magnitude of Anisometropia. Conclusion: Anisometropic amblyopia is a most important factor in pediatric age group because it can lead to visual impairment. Occlusion therapy with at least one instructed hour of active visual activity practiced out of school hours was effective in anisometropic amblyopes who were diagnosed at the age of 8 years and older, and the patients complied well with the treatment.

Keywords : refractive error, anisometropia, amblyopia, strabismic amblyopia
Conference Title : ICOO 2015 : International Conference on Ophthalmology and Optometry
Conference Location : Bangkok, Thailand
Conference Dates : December 17-18, 2015