

Amblyopia and Eccentric Fixation

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Abstract : Amblyopia or 'lazy eye' is impaired or dim vision without obvious defect or change in the eye. It is often associated with abnormal visual experience, most commonly strabismus, anisometropia or both, and form deprivation. The main task of amblyopia treatment is to ameliorate etiological factors to create a clear retinal image and, to ensure the participation of the amblyopic eye in the visual process. The treatment of amblyopia and eccentric fixation is usually associated with problems in the therapy. Eccentric fixation is present in around 44% of all patients with amblyopia and in 30% of patients with strabismic amblyopia. In Latvia, amblyopia is carefully treated in various clinics, but eccentricity diagnosis is relatively rare. Conflict which has developed relating to the relationship between the visual disorder and the degree of eccentric fixation in amblyopia should be rethought, because it has an important bearing on the cause and treatment of amblyopia, and the role of the eccentric fixation in this case. Visuoscopy is the most frequently used method for determination of eccentric fixation. With traditional visuoscopy, a fixation target is projected onto the patient retina, and the examiner asks to look straight directly at the center of the target. An optometrist then observes the point on the macula used for fixation. This objective test provides clinicians with direct observation of the fixation point of the eye. It requires patients to voluntarily fixate the target and assumes the foveal reflex accurately demarcates the center of the foveal pit. In the end, by having a very simple method to evaluate fixation, it is possible to indirectly evaluate treatment improvement, as eccentric fixation is always associated with reduced visual acuity. So, one may expect that if eccentric fixation in amblyopic eye is found with visuoscopy, then visual acuity should be less than 1.0 (in decimal units). With occlusion or another amblyopia therapy, one would expect both visual acuity and fixation to improve simultaneously, that is fixation would become more central. Consequently, improvement in fixation pattern by treatment is an indirect measurement of improvement of visual acuity. Evaluation of eccentric fixation in the child may be helpful in identifying amblyopia in children prior to measurement of visual acuity. This is very important because the earlier amblyopia is diagnosed - the better the chance of improving visual acuity.

Keywords : amblyopia, eccentric fixation, visual acuity, visuoscopy

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