

CONVENTIONAL OCCLUSION THERAPY FOR AMBLYOPIA AFTER THE AGE OF 9 YEARS-A SHORT TERM OBSERVATIONAL STUDY

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Abstract: *The word Amblyopia is of Greek origin, literally means dullness of vision or rather a lack of vision but not total blindness. It is defined as unilateral or bilateral decrease of visual acuity caused by pattern vision deprivation or abnormal binocular interaction without a detectable organic cause in the eye, reversible by therapy in most appropriate cases.*

Keywords: Amblyopia, visual acuity, pattern

1. Introduction

With increasing visual demands of an ever growing mechanized society, Amblyopia becomes a significant socio economic problem. even if started at a later age.

We have done a short term observational study to know the results of occlusion therapy for Amblyopia after the age of 9 years[1]

2. Materials and Methods

About 80 cases of Amblyopia with Ametropic, Anisometropic and Strabismic causes in the age group of 10-30 years were initially considered for study for a 6 month period between 01.09.2012 to 28.02.2013. Of them only 33 patients came for review atleast twice.[2]

Among them 17 were boys and 16 were girls in the age group of 10-20 years. Of them 23 patients had only refractive errors, 4 patients with both refractive errors and strabismus and 6 patients had only strabismus. 23 patients had unilateral Amblyopia and in 10 patients the Amblyopia was bilateral.

In all the patients a distance visual acuity was measured on Snellen's chart including with pinhole and glasses. A thorough anterior segment evaluation, fundoscopy and cycloplegic refraction were carried out with strabismus evaluation in relevant cases.[3]

In cases with only refractive errors

conventional occlusion therapy was started 1 month after wearing glasses with BCVA. In patients who underwent strabismus surgery patching was started 1 month after surgery.

Type of Patching : Of various therapeutic modalities available Hypoallergenic opti-clude patches were used to completely occlude the eye.

Schedule of Patching : A full time occlusion was given.

In cases with comparable BCVA in both eyes, each eye was occluded alternately 3 days a week with Sunday as holiday. The patients were asked to wear glasses over the patch[4].

In patients with unilateral Amblyopia, the normal eye was occluded for 5 to 6 days a week depending on age and visual acuity of patient[5].

Followup: Patients were advised followup at monthly intervals for a reassessment of visual acuity and also for a much needed encouragement. The patients and parents were given counseling about the need to adhere to the regimen and about the futility of having expectation in any other alternative means.

A minimum trial period of 3 months was considered before abandoning therapy in refractory cases.

Results: The patients who came for followup were grouped into 2 categories.

Table 1 – Category types by age

Category I (10 15 years)	Category II (16 20 years)
Total cases-25 Males-12 Females-13	Total cases-8 Males-5 Females-3

Results to Category I by Types

Type A – Ametropic and Anisometropic Causes (Table 2)

Type B – Cases with Strabismus and Refractive Errors (Table 3)

Ametropic and Anisometropic Cases			
Total cases – 17 Males– 9 Females – 8			
Improvement by 3 lines	Improvement by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
Males– Nil Females – 2 (1 Myope and 1 Hypermetrope)	Total cases – 6 Males–3 Females– 3 (2 Myopes and 4 Hypermetropes)	Total cases – 5 Males–4 Females– 1 (3 Myopes and 2 Hypermetropes)	Total cases – 4 Males– 2 Females– 2 (2 Myopes and 2 Hypermetropes)

Cases with Strabismus and Refractive Errors			
Total cases – 3 Males–1 Females – 2			
Improve ment by 3 lines	Improveme nt by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
-	-	Total cases – 2 Males–1 Females–1 (1 Exotropic Myope and 1 Esotropia with Hypemetropia) * Patching done post operatively)	Total cases – 1 Males– Nil Females– 1 (Esotropia with Hypermetropia) * Preoperative patching

Type C – Cases with Strabismus (Table-4)

Results in Category II by Types

Type A – Ametropic and Anisometropic

Cases with Strabismus			
Total cases – 1			
Males – 1			
Females – Nil			
Improvement by 3 lines	Improvement by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
-	Total cases – 1 Males – 1 Females – Nil (1 Exotropic with Myope) * Patching done postoperatively	-	-

Causes (Table 5)

Ametropic and Anisometropic Causes			
Total cases – 6			
Males – 3			
Females – 3			
Improvement by 3 lines	Improvement by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
-	Total cases – 1 Males – Nil Females – 1 (1 Myope)	Total cases – 4 Males – 3 Females – 1 (3 Myopes and 1 Hypermetrope)	Total cases – 1 Males – Nil Females – 1 (High Hypermetrope)

Type B – Cases with Strabismus and Refractive Errors (Table 6)

Cases with Strabismus			
Total cases – 5 Males 1 females 4			
Improvement by 3 lines	Improvement by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
-	Total cases – 3 Males – Nil Females – 3 (1 Exotropic and 2 Esotropic) (2 cases postoperative patching and 1 preoperative patching)	Total cases – 1 Males – 1 Females – Nil (1 Exotropic) *Patching done postoperatively	Total cases – 1 Males – Nil Females – 1 (1 Esotropia) * Preoperative patching

Type C – Cases with Strabismus (Table 7)

Cases with Strabismus and Refractive Errors			
Total cases – 1 Males – 1 Females – Nil			
Improvement by 3 lines	Improvement by 2 lines	Improvement by 1 line	Improvement by less than 1 line or No improvement
-	-	-	Total cases – 1 Males – 1 Females – Nil (Exotropia with Hypermetropia) * Preoperative patching.

OBSERVATIONS AND CONCLUSION :

By processing the data mentioned in the above tables the following few observations were made.

- No significant difference could be noted in the treatment results of Myopic and Hypermetropic Amblyopes.
- In majority of patients with less improvement in visual acuity the compliance was found to be poor.
- In Strabismic patients postoperative patching was by and large more effective than preoperative patching.
- In subjects with initial visual acuity of 6/60 or less the improvement after patching was relatively poor.
- Conventional occlusion has some role even after the age of 9 years, though in many cases the improvement of visual acuity is by 1 line.
- The study needs to be continued further with larger sample for more meaningful inferences[6].

References

- [1]. K.H. Park, J-M Hwang and JK Ahn – “Eye”, Volume 1, Number 2, May-June, 2004.
- [2]. Piantanida A. Vergani D : Successful Occlusion Therapy in compliant amblyopic elderly children. In Spiritus M. ed : Transactions of the 25th Meeting of European Strabismological Association, Jerusalem, September, 1999. Lisse, the Netherlands, Aeolus Press, 2000, page 41.
- [3]. Mazow ML Chuang A Vital MC, Prager T : Outcome study in amblyopia : Treatment and practice pattern variations. Journal Am Assoc Pediatr Ophthalmol Strabismus 4 : 1, 2000
- [4]. Paliaga GP : Major review : Controversies in functional amblyopia. Binocular vision strabismus Q 12 : 155, 1997.
- [5]. Von Noorden – Binocular Vision and Ocular Motility (Chapter 14, Examination of the patient Amblyopia, Chapter 24, Principles of Non Surgical Treatment – Amblyopia)
- [6]. Smith LK, Thompson JR, Woodruff G Hiscox F : Factors affecting treatment compliance in amblyopia. J Pediatr Ophthalmol Strabismus 32 : 98, 1995