ORIGINAL ARTICLE

Convergence Insufficiency in Patients Visiting Eye OPD with Headache

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Abstract

The present study was undertaken to find out the incidence of convergence insufficiency in patients presenting in eye OPD with chief complaints of headache. Only patients with normal visual acuity and fundus picture were included in this study. All the 100 patients included in this study were subjected to detailed orthoptic examination which included tests for near point of convergence by RAF, Maddox rod tests and synaptophore examination. It was found that a substantial number of patients had convergence insufficiency and maximum no. of such patients (49%) were in the age group of 20-40 years. The sudy highlights the importance of ortoptic examination in all patients of strain and headache.

Key Words

Headache, Convergence Insufficiency, Eye

Introduction

Convergence insufficiency is a common condition that is characterized by a person's inability to maintain proper binocular eye alignment on objects as they approach from distance to near. Convergence insufficiency is defined as a reduction in the positive relative convergence in relationship to the demand or/and the reduction in the near point of convergence (1) and convergence amplitudes are less than normal in such patients. The symptoms associated with convergence insufficiency vary from mild to severe but they are often quite troublesome. Common symptoms associated with convergence insufficiency include headache, eye-strain and blurred vision especially after prolonged periods of reading. These symptoms are aggravated by illness, lack of sleep, anxiety and prolonged near work. Its clinical importance has been recognized from the time of Van Graefe (2). The weakness of convergence is quite common in those who are constantly engaged in near work like students, clerks, housewives who do a lot of stiching and in executives who do a lot of work on Computers. Although it is a disorder that is frequently underdiagnosed, & often seen in normal, healthy people of any age and responds very well to the treatment.

Material & Methods

The present study was conducted among patients presenting with persistent headache in eye O.P.D of Medical College, Jammu during the period of January 2006 to June 2006. All the patients were subjected to routine clinical examination, fundoscopy and refraction under tropicamide. Only 100 patients with normal vision and fundus were taken up for this study. All the patients were enrolled for the study after explaining the purpose of the study to them. Tests for binocularity of vision, Maddox rod tests, near point of convergence and near point of accommodation and adduction, abduction were carried out to identify the patients of primary convergence insufficiency.

Results

Out of the 100 patients included in the present study, 67 were females and 33 were males. Most of them were between 20-40 years (Table-1). Only 17 patients were less than 20 years. 53 patients were between 21-30 years and 30 were between 31-40 years. On orthoptic examination (Table-2), 20 patients had exophoria at near point, 49 had convergence insufficiency or decreased convergence amplitude and 5 had esophoria. We could not detect any abnormality on orthoptic examination in 26 patients. It was seen that maximum number of cases were from the group which had to do more near work.

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Table –1 Agewise Distribution of Patients

Age	No.	%
15 – 20 years	17	17
20 – 25 years	25	25
25 – 30 years	28	28
30 – 35 years	18	18
35 – 40 years	12	12

Mean age – 23.25 years S. D = ±6.28 years

Table –2 Muscular Imbalance in Headache Patients

Type of imbalance	Patients	
	No.	%
Convergence Insufficiency	49	49
Exophoria	20	20
Esophoria	5	5
Orthophoria	26	26

Discussion

Convergence is indispensable for maintenance of single binocular vision for all distances nearer to infinity. The present study indicated that almost every second person (49%) presenting with headache with normal vision and fundus was found to be suffering from convergence insufficiency. This finding is in agreement with a recent Romanian study revealing that roughly 3 in 5 (60.4%) of young adult patients complaining of blurring of vision at near work and headache suffered from convergence insufficiency (3). Kratka has found that 25% of a sample of 500 patients demonstrated findings indicative of convergence insufficiency (4). Deshpande and ghosh et al have found it to be 7.7% of the total attendance of a orthoptic clinic (5). In a study conducted by southern California college of optometry, it was found that approximately 1 in 8 (13%) of fifth and six grade children examined during visual screenings had the disorder (6),as did nearly 1 in 5 (17.6%) of 8 to 12 year olds receiving examination at optometry clinics(7). Convergence insufficiency has a reported prevalence of 2.5 to 13% among children and adults in United States(8).A British survey found that less than 1 in 300 patients receiving optometric eye examination had convergence insufficiency(9). In a recent study , Patwardhan and Sharma have reported that 71.4% patients of convergence insufficiency reporting to OPD had symptoms of headache (10).

. These clinical studies show a large difference in incidence of convergence insufficiency. These differences may be due to varying definitions and criteria being used, the populations being studied and methods of measurement. In our study, the higher magnitude of such patients is because of its being very selective about the type of patients included in the study.

In view of the present study findin ,we hence recommend that all patients of headache and eye strain, with normal visual acuity should undergo a complete and detailed orthoptic examination as convergence insufficiency is very common in such cases and is amenable to orthoptic and vision therapy (11).

Conclusion

Present study highlights that a high percentage of patients with headache who had normal vision and fundus suffer from convergence insufficiency. It is more common in patients between 20 – 40 years especially those engaged in near work. The study highlights the importance of orthoptic examination in all cases of eye strain and headache.

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