ABSTRACT

This case study describes optometric treatment for improving vision issues related to Infantile Nystagmus Syndrome (INS). Optometrists can benefit from better understanding nystagmus and their offering in expertise in treating this visually-significant condition. This case will describe key features of INS, along with how an effective program of vision therapy may be used to treat patients with INS.

INTRODUCTION

Nystagmus is an oscillation of the eyes, beginning with a drift away from the intended viewing target and succeeded by a slow or fast refixation. Nystagmus can produce a significant reduction in clarity and efficiency of vision and may lead to social difficulties due to reduced performance and cosmetics.1 Infantile Nystagmus Syndrome (INS), one type of nystagmus, occurs in ~1 in 1000 people.3 Patients with INS have distinct signs that eye care professionals can diagnose and treat in order to improve the quality of life for people with INS. Optometrists can benefit from understanding INS and what to do for this patient population.

DIAGNOSING INS

The presence of a variable jerk and/or pendular nystagmus with medium amplitude and frequency, presenting between birth and six months of age. Diagnostic Features of INS: Using the Acronym SLOUN3

S = Symptomless (No reports of blur or oscillation)1. Symmetrical amplitudes in each eye
O = Abnormal OKN response
W = Nystagmus worsens with fixation
W = Horizontal nystagmus remains in upgaze5
P = Presence of null point or zone, where oscillation is minimal

*Note: If all criteria are not met for INS, neuroradiologic testing is warranted5

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CASE SUMMARY

A 12 YO CM presented to the office with significant visual complaints. Refer to Table 1 for a summary of his initial findings. Based on his initial vision therapy evaluation, a vision therapy program was personalized for his diagnoses, which included:

- Infantile Nystagmus Syndrome
- Intermittent Left Exotropia
- Oculomotor Dysfunction
- Accommodative Insufficiency

CONCLUSION

NS significantly improved his oculomotor, accommodative, and binocular skills in vision therapy. He has developed better awareness and control of his visual instability with intensive oculomotor, fixation, and fusion training. NS continues to attend weekly vision therapy sessions since his ultimate goal is to be a pilot, which requires 20/20 vision monocularly. Additionally, the goal is to achieve 100 standard score in all areas of vision in order to reach greater visual efficiency for daily life.

NS is closer to achieving the visual requirements necessary to achieve his goal of becoming a pilot. Patients with infantile nystagmus syndrome can benefit immensely from optometric treatment modalities7,8. In this case, a combination of biofeedback and vision therapy, including biofeedback techniques, were utilized to improve oculomotor control, visual acuity and performance.

REFERENCES


Table 1. Examination Findings Including Initial and Progress Evaluations

<table>
<thead>
<tr>
<th>Test</th>
<th>Initial</th>
<th>Progress 1</th>
<th>Progress 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance 10 ILXT</td>
<td>Distance 15 XP</td>
<td>10 ILXT (OD preferred fixation)</td>
<td></td>
</tr>
<tr>
<td>Distance 20 XP</td>
<td>Distance 10 ILXT</td>
<td>Distance 15 XP</td>
<td></td>
</tr>
<tr>
<td>Distance 14 XP</td>
<td>Distance 20 XP</td>
<td>Distance 10 ILXT</td>
<td></td>
</tr>
<tr>
<td>Distance 10 IAXT (OD preferred fixation)</td>
<td>Distance 15 XP</td>
<td>Distance 10 ILXT</td>
<td></td>
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</table>

Graph 1. Progress Evaluation Results Over 2 Years of Vision Therapy

Results of each progress evaluation. Each test is compared with age-matched normative data (100 is the standard scale which corresponds with the 50th percentile rank)