

Visual Function in Optic Neuritis and the Effects of Complementary Medicine in their Treatment

¹Dr. Rohan Goyal; ²Suman Goyal; ³Dr. Krishan Kumar Goyal

¹Doctor; ^{2,3}Director,

Department of Ophthalmology, Sanjeevan for Perfect Eyesight, Mumbai

Abstract :-

Background of Optic Neuritis: Optic Neuritis, a significant eye ailment, can severely impair vision. To halt its progression without resorting to steroids or surgical intervention, non-invasive methods are crucial.[1]Belief in the effectiveness of complementary medicine is slowly changing for the better while research has begun to show the appropriateness of using holistic approaches, integrating complementary medicine and conventional methods, to effectively treat optic neuritis and enhance vision.

Methods: Optic Neuritis, the inflammation damaging the optic nerve, was addressed at Sanjeevan for Perfect Eyesight in Mumbai, India. Patients aged 6 to 50 underwent a pioneering treatment regimen which included a holistic treatment comprising of Electro-acupuncture, Natural Nutritional Supplements, Vision therapy, Dietary Guidance, Micro-acupuncture, Micro-current stimulation, and Hydrogen therapy. [2] Diagnostic tools such as Visual Field Analyzer and Optical Coherence Tomography (OCT) were utilized pre and post-treatment to analyze vision enhancement. All methods and assessments were conducted under the expert oversight of Sanjeevan's team of experts.

Results: After commencing treatment, the patients experienced a remarkable 90% improvement in their vision. Reports demonstrated the impact through various key elements: diagrammatic grading of visual function enhancement, catch trial value, and estimation of Diffuse Defect, reflecting the extent of visual field loss.[3] Importantly, all participants completed the complementary medical course without any adverse effects. [4]Recent studies affirm the benefits of these integrated methods in vision enhancement. The use of complementary medicines emphasizes the effectiveness of a holistic treatment model, emphasizing the dedication to achieving comprehensive restoration of visual acuity.

Conclusion: In conclusion it's evident that utilizing complementary medicine and integrative approaches for Optic Neuritis can potentially result in achieving up to 90% visual acuity. Therefore, individuals who have undergone this embraced complementary medicine have seen improvements in their visual function.

Keywords:- Visual Function, Optic Neuritis, Complementary Medicine, Acupuncture, Vision Therapy.

I. INTRODUCTION

Optic Neuritis stands as a prevalent eye condition affecting over 50% of individuals in India. Typically, inflammation in the optic nerve diminishes visual function, leading to impaired vision for those affected. In a nationwide database encompassing 44 million individuals in South Korea, the incidence rates were observed at 1.04 per 100,000 among children and 3.29 per 100,000 overall from 2010 to 2016 [5]. Among the adult population, the incidence recorded was 5.36 per 100,000 in a hospital discharge database in Spain spanning from 2008 to 2012. Additionally, in the United Kingdom Health Improvement Network, the incidence rate stood at 3.7 per 100,000 individuals from January 1, 1995, to September 1, 2019. Notably, patients diagnosed with ON exhibited a significantly elevated rate of incident MS, indicated by a hazard ratio of 284.97 and 95% confidence intervals ranging from 167.85 to 483.81.[6]

Inflammation impacting the optic nerve primarily causes optic neuritis, attributed to various factors. Traumatic optic neuritis, a specific type, is linked to past incidents impacting vision, such as accidents or physical injuries. [7]Past experiences can contribute to vision challenges associated with this form. Individuals with optic neuritis may struggle with color identification and experience varying degrees of vision clarity in one eye, differing in each case.

Ongoing research aims to introduce new surgical approaches for optic neuritis. Complementary medicine has shown potential in improving vision. When assessing a patient with this condition, typical observations include reduced visual sharpness, limited vision, color perception difficulties, and an abnormal pupil response in the affected eye. Improved peripheral vision can enhance overall visual acuity. Complementary treatments have demonstrated efficacy, impacting activities and self-confidence. Research indicates that yoga and meditation practices can foster different mindsets and psychological beliefs, potentially benefiting brain-eye coordination which is crucial for identifying the change.

Individuals who have experienced trauma or suffer from mental health conditions may encounter vision challenges as they age. Acupuncture has demonstrated significant enhancements in blood flow to the ocular vasculature, involving cell activation. Vision therapy serves as an effective complementary approach, enhancing vision

while promoting relaxation. Its primary focus lies in coordinating the brain and eye functions using natural light. [8]

Natural nutritional supplements also play a crucial role in the development and rejuvenation of retinal cells, thereby enhancing vision. They contain vitamin A and antioxidants that strengthen the immune system. Trials have demonstrated significant improvements in health due to the use of these supplements.

II. METHODOLOGY

The study focused on vision assessment and reports of patients diagnosed with optic neuritis. It included several patients who were compared before and after the administration of complementary medicines to evaluate their effects. All the patients included in the studies are between 6 to 50 years old.

A. Type and Duration of Treatment:

The chosen treatment comprises a combination of vision therapy, electro-acupuncture, micro-acupuncture, micro-current stimulation, hydrogen therapy, and natural nutritional supplements. Detailed descriptions of each method is provided below:

- **Vision Therapy:** Vision therapies is based on the Bates method, incorporating light adaptation techniques, dark adaptation techniques, and other exercises designed to enhance the orientation and adaptability of patients. These exercises aim to improve visual function of the patients, help them in depth perception, light perception, and distance adjustment. [9]
- **Electro- Acupuncture:** This technique involves applying electrical stimulation to specific points around and other points located distal to the face which gives different action to eyes. For example L1-4, L1-11, GB-34, GB-37, LR-2, K-3, SP-6, SP-9. These points help to reduce the inflammation & blockages to nerves, given homeostatic effect improves the blood circulation to the eye and improves the eye health, to stop the further damage to the optic nerve. [10]
- **Micro-Acupuncture:** The Micro Acupuncture protocol involves multiple 20-minute treatments in a day, separated by two-hour intervals.[11]This therapy targets specific points on the hands and feet using acupuncture needles. Complementary approach using different integrated treatment modalities and micro acupuncture is effective for optic neuritis. [12]
- **Micro- Current Stimulation:** Recent research studies suggest that non-invasive electrical stimulation (ES) applied to the eye holds promise for preserving or restoring vision in different retinal and optic nerve diseases. [13]. The main aim of micro-current stimulation incorporates effective utilization of complementary medicines, showcasing how they are used in conjunction with this method. [14]

- **Hydrogen Therapy:** All patients underwent hydrogen therapy, a treatment known to stimulate the development of oxidants within the body, which in turn strengthens the immune system. This therapy involves the administration of hydrogen-rich oxidants using a machine specially from Japan that converts distal (H₂O) water into H- hydrogen, H- hydrogen, O- oxygen that induce the production of reactive oxygen species, supporting the body's immune response. This process aids in fortifying the immune system's defenses, contributing to overall visual function and health.[15]
- **Natural Nutritional Supplements:** Various nutritional supplements utilized in complementary medicine include:
 - ✓ Aloe Vera juice: The juice contains 100 ml Aloe Vera (Aloe Barbadensis) leaves juice and citric acid, sodium benzoate and potassium sorbate.
 - ✓ Omega 3-6-9 supplements taken twice daily.
 - ✓ Eye Restore Max supplements: The supplements include Vitamin C. The supplement includes Propylene Glycol, Povidone, Talc, and many other rich vitamins which can enhance one's vision naturally.

B. Inclusion and Exclusion Criteria:

The study exclusively involved patients experiencing heightened optic nerve conditions and specific central/peripheral vision loss.

C. Source/Mode of data collection:

The study retrieved detailed reports specifically from Sanjeevan for Perfect Eyesight, with the usage of advanced techniques like visual field assessment using perimetry. Additionally, doctors performed comprehensive visual acuity tests, ensuring a thorough analysis of the patients' vision-related data.

III. RESULTS AND DISCUSSION

All Optic Neuritis patients received treatment using selected complementary medicines. They underwent examinations both before and after the complementary medicine treatment, and the reports were compared to assess the treatment outcomes[16]. Thorough testing was conducted to understand the disorder and its effects, utilizing advanced technological equipment such as the OCTOPUS 900 by Haag Streit AG, Switzerland. This on-field assessment machine helped evaluate visual function accurately.

Table 1: Before and After Treatment effect and their comparison in Visual field defect

Before Treatment	Right Eye (OD)		Left Eye (OS)		After Treatment	Right Eye (OD)		Left Eye (OS)	
	Catch Trial	Defuse Defect	Catch Trials	Defuse Defect		Catch Trials	Defuse Defect	Catch Trials	Defuse Defect
1.	0%+, 8%-	8.4	0% +, 18% -	12.3	1.	0%+,0%-	7.7	0%+,18%-	7.1
	0%+, 0%-	11.5	0%+, 25%-	8.8		0%+, 0%-	11.1	0%+, 0%-	7.7
2.	20%+, 18%-	4.1	0%+, 0%-	34.2	2.	0%+, 20%-	3.3	0%+, 9%-	14.7
	0%+, 0%-	11.5	0%+, 25%-	8.8		0%+, 9%-	11.1	0%+, 0%-	7.1
3.	0%+, 8%-	8.4	0%+, 0%-	7.4	3.	0%+, 9%-	7.7	0%+, 18%-	7.1
	0%+, 0%-	21.8	0%+, 33%-	26.8		0%+,0%-	19	0%+, 0%-	22.4
4.	0%+, 0%-	25.3	0%+, 11%-	25.9	4.	0%+, 10%-	24.8	0%+, 0%-	22.4
	0%+. 33%-	32	6/6	0		0%+, 0%-	22.2	6/6	0
5.	0%+, 11%-	25.5	6/6	0	5.	0%+, 0%-	22.2	6/6	0

Table 2: Details of various parameters used for patient suffering from Optic Neuritis in visual field defect comparison

Sr. No.	Programme	Parameters	Angel	M/F	Age
1	LVC Standard	31.4/4000 asb V 200	30°	M	35
2	10-2 Standard	31.4/4000 asb V 200	10°	M	35
3	LVC Standard	31.4/4000 asb V 200	30°	M	6
4	10-2 Standard	31.4/4000 asb III 100	10°	M	45
5	30-2 Standard	31.4/4000 asb III 100	30°	M	45
6	10-2 Standard	31.4/4000 asb V 200	10°	M	58
7	LVC Standard	31.4/4000 asb V 200	30°	M	58
8	10-2 Standard	31.4/4000 asb V 200	10°	M	30
9	LVC Standard	31.4/4000 asb V 200	30°	M	30

A. Patient 1.

➤ **[A] Left Eye (OD) (Before Treatment)**

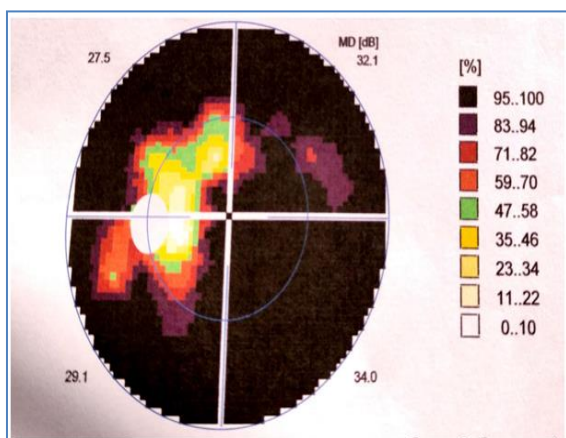


Fig. 1A

➤ **[B] Left Eye (OD) (After Treatment)**

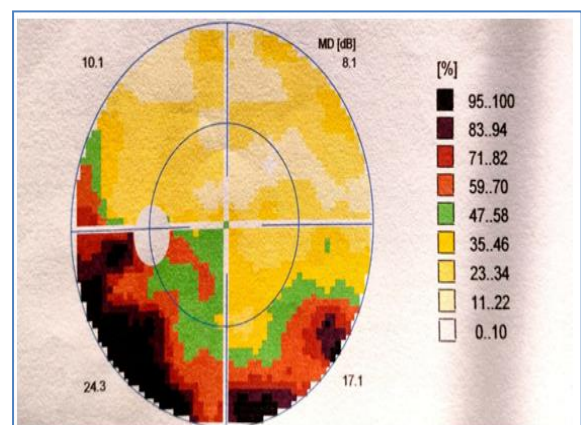


Fig. 1B

Fig. 1: Grayscale (CO) showing before and after result of patient 1 suffering from Optic Neuritis.

B. Patient 2

➤ [A] Right Eye (OD) (Before Treatment)

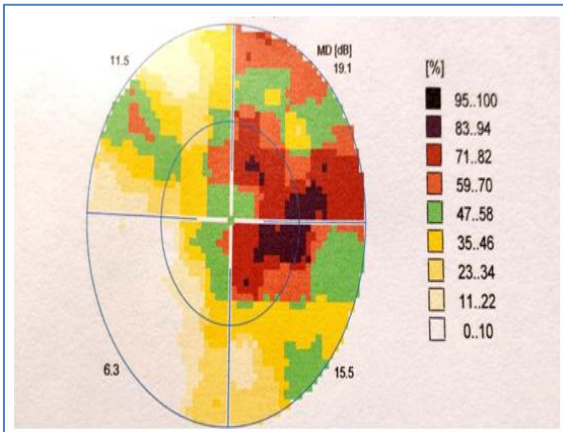


Fig. 2A

➤ [B] Right Eye (OD) (After Treatment)

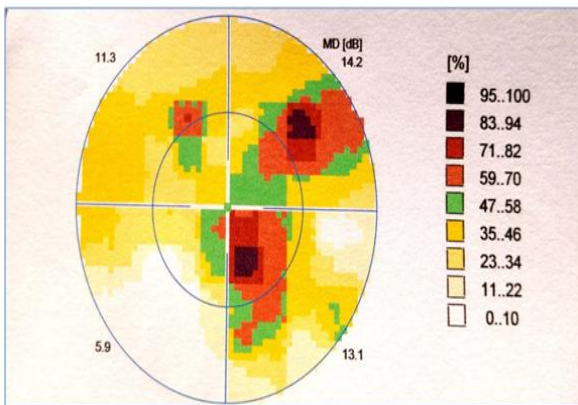


Fig. 2B

Fig. 2: Grayscale (CO) showing before and after result of patient 2 suffering from Optic Neuritis.

C. Patient 3

➤ [A] Right Eye (OD) (Before Treatment)

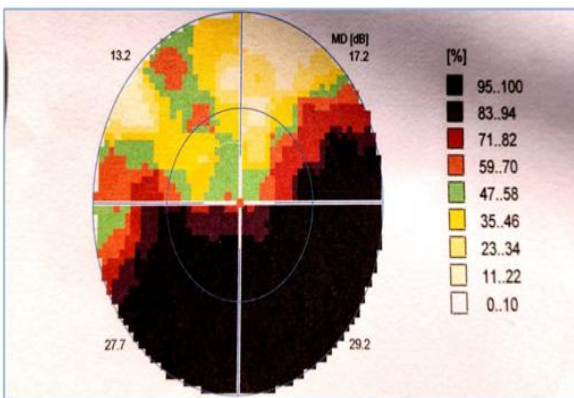


Fig. 3A

➤ [B] Right Eye (OD) (After Treatment)

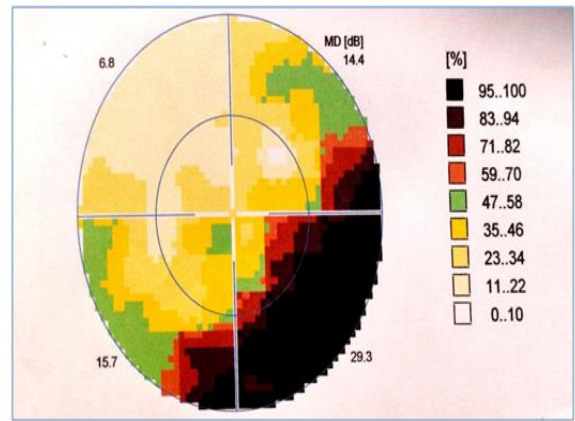
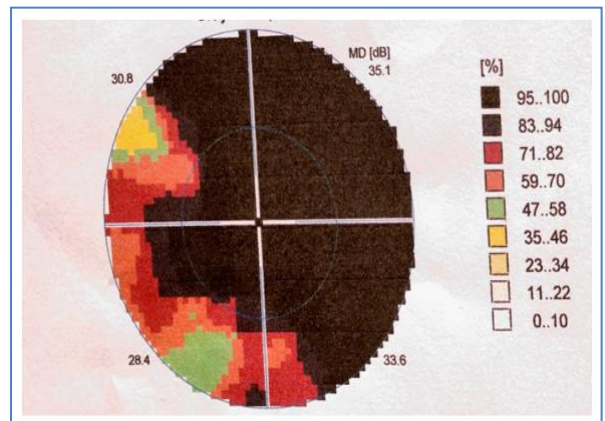


Fig. 3B

Fig. 3: Grayscale (CO) showing before and after result of patient 3 suffering from Optic Neuritis.

D. Patient 4

➤ [A] Right Eye (OD) (Before Treatment)



➤ [B] Right Eye(OD) (After Treatment)

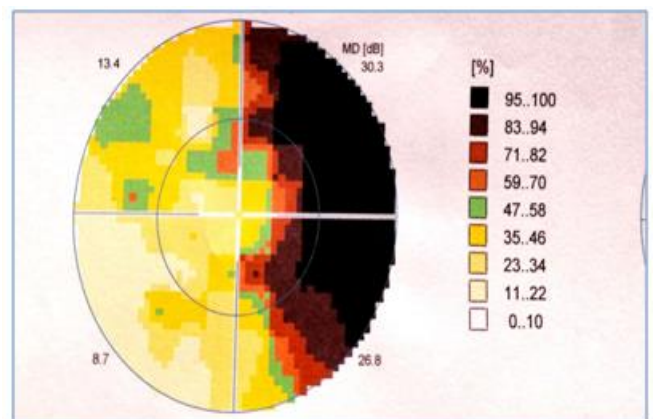


Fig. 4: Grayscale (CO) showing before and after result of patient 3 suffering from Optic Neuritis

IV. CONCLUSION

The recent study showcasing notable improvements in the visual function of Optic Neuritis patients through a standardized complementary medicines protocol is a significant stride in enhancing eye health. Patients using complementary medicine reported enhanced eyesight, underlining the potential of holistic approaches in managing Optic Neuritis. (17) These initial findings underscore the importance of further controlled investigations to delve deeper into potential causes and refine treatment strategies.

The increasing global prevalence of Optic Neuritis, especially in traumatic cases, highlights its widespread impact on visual health. As research in this field is ongoing, these insights offer promise not only in the treatment of Optic Neuritis but also in advancing our understanding of effective approaches to enhance visual acuity. The continuous exploration of various aspects of Optic Neuritis treatment remains a key focus for ongoing and future studies in the pursuit of improved eye care. [18]

REFERENCES

- [1]. Aneesh, Anagha, Alice Liu, Heather E. Moss, Douglas Feinstein, Sriram Ravindran, Biji Mathew, and Steven Roth. "Emerging Concepts in the Treatment of Optic Neuritis: Mesenchymal Stem Cell-Derived Extracellular Vesicles - Stem Cell Research & Therapy." *BioMed Central*, December 4, 2021. <https://stemcellres.biomedcentral.com/articles/10.1186/s13287-021-02645-7>.
- [2]. Mustafa H. Salem* & Ferdous A. Jabir. "Association of NRAMP-1 Gene Polymorphism and Vitamin -D , Iron and HB Levels in COVID-19 Patients." *Chinese Journal of Medical Genetics*. Accessed January 12, 2024. <https://www.zhxyx.life/index.php/cjmg/article/view/186.html>
- [3]. Mustafa H. Salem* & Ferdous A. Jabir. "Association of NRAMP-1 Gene Polymorphism and Vitamin -D , Iron and HB Levels in COVID-19 Patients." *Chinese Journal of Medical Genetics*. Accessed January 12, 2024. <https://www.zhxyx.life/index.php/cjmg/article/view/186.html>
- [4]. "Please Enable Cookies." *StackPath*. Accessed January 12, 2024. <https://www.naturaleyecare.com/blog/microcurrent-stimulation-eye-disease/>
- [5]. Bennett, Jeffrey L. "Optic Neuritis." *Continuum (Minneapolis, Minn.)*, October 2019. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7395663/>
- [6]. Services, Neuro-ophthalmology and Strabismus. "Approach to Optic Neuritis: An Update: Indian Journal of Ophthalmology." *LWW*. Accessed January 12, 2024. https://journals.lww.com/ijo/fulltext/2021/09000/approach_to_optic_neuritis__an_update.7.aspx
- [7]. "ONTT: Long-Term Optic Neuritis Study Finished." *American Academy of Ophthalmology*, March 18, 2016.
- [8]. NA,; Guy J;EllisEA;MamesR;Rao. "Role of Hydrogen Peroxide in Experimental Optic Neuritis. A Serial Quantitative Ultrastructural Study." *Ophthalmic research*. Accessed January 13, 2024. <https://pubmed.ncbi.nlm.nih.gov/8233351/>
- [9]. <https://www.aao.org/eyenet/article/ontt-long-term-optic-neuritis-study-finished#:~:text=There%20was%20little%20or%20no,or%20better%20in%20both%20eyes>
- [10]. "View of Optic Neuritis: Evaluation of Visual Acuity and Contrast Sensitivity. A Hospital Based Cross Sectional Study: Malaysian Journal of Medical Research (MJMR)." *View of Optic Neuritis: Evaluation of Visual Acuity and Contrast Sensitivity. A Hospital Based Cross Sectional Study | Malaysian Journal of Medical Research (MJMR)*. Accessed January 12, 2024. <https://ejournal.lucp.net/index.php/mjmr/article/view/2079/2311>
- [11]. Pau, D, N Al Zubidi, S Yalamanchili, G T Plant, and A G Lee. "Optic Neuritis." *Nature News*, April 29, 2011. <https://www.nature.com/articles/eye201181>
- [12]. Optic neuritis, its differential diagnosis and management. Accessed January 12, 2024. <https://openophthalmologyjournal.com/VOLUME/6/PAGE/65/ABSTRACT/>
- [13]. Kemcho Natee, Parinee, ChotikaSinghakul, Niracha Arjkongharn, MethaphonChainakul, DuanghathaiTangon, and ThansitSrisombut. "A 10-Year Single-Center Study of the Clinical Characteristics of Optic Neuritis-Related NMO, MS, and Double Seronegative Optic Neuritis, Together with Factors Predicting Visual Outcomes." *MDPI*, February 28, 2023. <https://www.mdpi.com/2411-5150/7/1/16>
- [14]. "Approaches to Diagnosis, Treatment and Management of Optic Neuritis." *Cleveland Clinic*. Accessed January 12, 2024. <https://my.clevelandclinic.org/departments/neurological/depts/multiple-sclerosis/ms-approaches/optic-neuritis>
- [15]. Education, MCL. "Optic Neuritis in the Era of Biomarkers." *Insights*, June 1, 2022. <https://news.mayocliniclabs.com/2019/06/03/optic-neuritis-in-the-era-of-biomarkers/>
- [16]. Bennett, Jeffrey L., Fiona Costello, John J. Chen, Axel Petzold, Valérie Biousse, Nancy J. Newman, and Steven L. Galetta. "Optic Neuritis and Autoimmune Optic Neuropathies: Advances in Diagnosis and Treatment." *Mayo Clinic*. Accessed January 12, 2024. <https://mayoclinic.elsevierpure.com/en/publications/optic-neuritis-and-autoimmune-optic-neuropathies-advances-in-diag>
- [17]. "Optic Neuritis: Update on Diagnosis, Management, and Long-Term Follow-Up." *Practical Neurology*. Accessed January 12, 2024. https://practicalneurology.com/articles/2009-oct/PN1009_02-php