

A Study of clinical profile and visual outcomes in patients with optic neuritis at tertiary care centre

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Abstract

Background: In addition to causing significant visual impairment and possibly permanent visual abnormalities, optic neuritis is a significant predictor of the onset of demyelinating illnesses like multiple sclerosis. Therefore, ophthalmologists play a crucial role in helping to prevent MS from becoming a serious condition. Thankfully, optic neuritis usually goes away on its own or with medical intervention. Depending on the severity and comorbid illnesses, recovery might be either partial or complete. Studying the clinical characteristics and visual results of patients with optic neuritis is the goal.

Materials and techniques: The institution's ethics committee gave its clearance for a prospective observational study that was carried out in the ophthalmology department. After gaining informed consent, ON patients were added to the research. A total of sixty cases were examined. Software such as Openepi and SPSS were used for the analysis.

Results: The age range of presentation was 16–75 years old, with a mean age of 39.3667 ± 14.03563 . 34 individuals out of 60 had retrobulbar neuritis [56.7%], while 26 patients had papillitis [43.3%]. Following ONTT, every patient's vision improved. There is statistically significant improvement in vision.

Conclusion: The findings showed that RBN and papillitis prevalence were nearly identical. While papillitis resolved slowly, patients with RBN reacted rapidly to the ONTT regimen. Following ONTT, VA improvement was statistically significant. Additionally, contrast and color vision improved. Our research demonstrated that the ONTT regimen is beneficial for optic neuritis and promotes a quick recovery of vision.

Keywords: optic neuritis, ONTT, and vision.

Introduction

The inflammation of the optic nerve is known as optic neuritis. It is closely linked to Multiple Sclerosis (MS) and can arise as a result of inflammatory, viral, or autoimmune diseases. Although it often happens without

MS, it is the initial symptom in 15-20% of MS patients. Furthermore, at some point during the course of their illness, 65% of people with multiple sclerosis will experience visual neuritis. The clinical profile of optic neuritis varies slightly in emerging nations such as India. There aren't many studies on optic neuritis. According to a few studies, the situation on the Indian subcontinent is different since infectious diseases are a major cause of optic neuritis and the prognosis is not very good. Therefore, the likely cause, risk, and visual outcome of optic neuritis in an Indian setting would be the main emphasis of this study.

Aim: to research the visual results and clinical characteristics of individuals suffering from optic neuritis. Materials and techniques

Material and Methods

The institution's ethics committee gave its clearance for a prospective observational study that was carried out in the ophthalmology department. After gaining informed consent, ON patients were added to the research.

The following criteria were used to diagnosis ON: a relative afferent pupillary deficiency, dyschromatopsia, a normal or enlarged optic disc on fundus examination, and abrupt unilateral or bilateral visual loss lasting fewer than four weeks.

Table 1: Demonstrating that both males and females have different types of optic neuritis.

Type	Male	Female	Total
RBN	6	28	34
papillitis	16	10	26
total	22	38	60

Inclusion Criteria

- Age group of >18year
- Both gender (Male and Female)
- Patients with Optic neuritis

Exclusion Criteria

- The study did not include other types of ocular neuropathies, including compressive, ischemic, infectious, traumatic, toxic, and hereditary.
- The study did not include patients less than 18 years old.
- Patients who refuse to take part in the research.

Analysis: Data was collected and compiled on Microsoft Excel spreadsheets and analysed using SPSS 20.0 software and Openepi version 2.3.1.

Results

Figure 1: type of optic neuritis that occurs

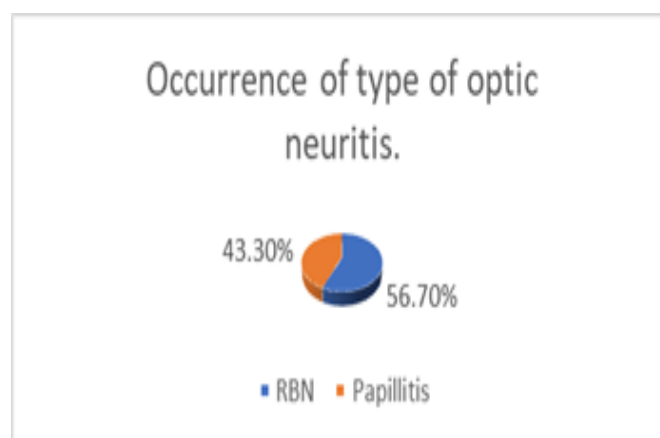


Figure 2: correlation of risk factors for ocular neuritis

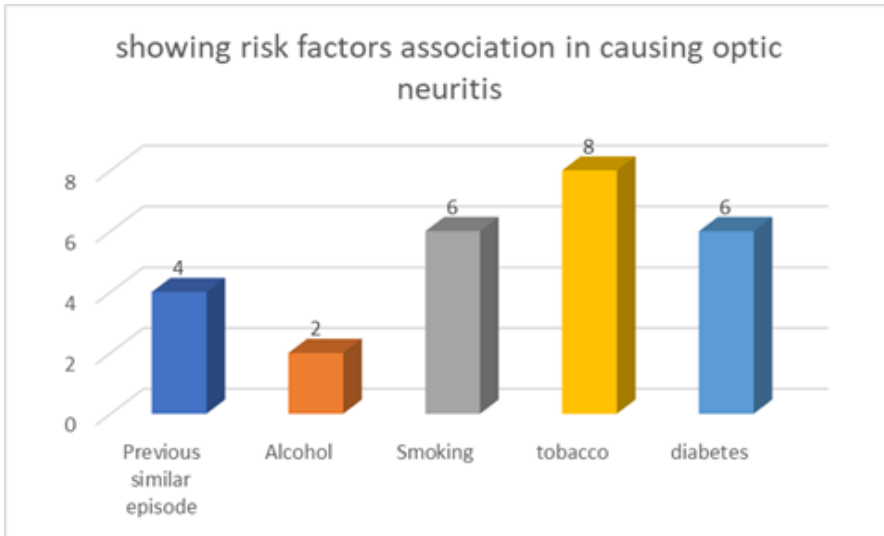


Table 2: complaints described by patients

Complaints	Rbn	Papillitis
DOV	34	26
pain	22	12
loss of field of vision	0	0
photopsia	0	0
Uthoffs phenomenon	2	0

Table 3: Comparing pupillary reactions prior to and following treatment

Parameter	Presentation	1 wk	1 month	3 month
normal	0%	63.33%	76.66%	80%
RAPD	76.66%	20%	10%	6.66%
sluggish	23.33%	16.66%	13.33%	13.33%

Figure 3: Comparison of visual acuity prior to and following treatment

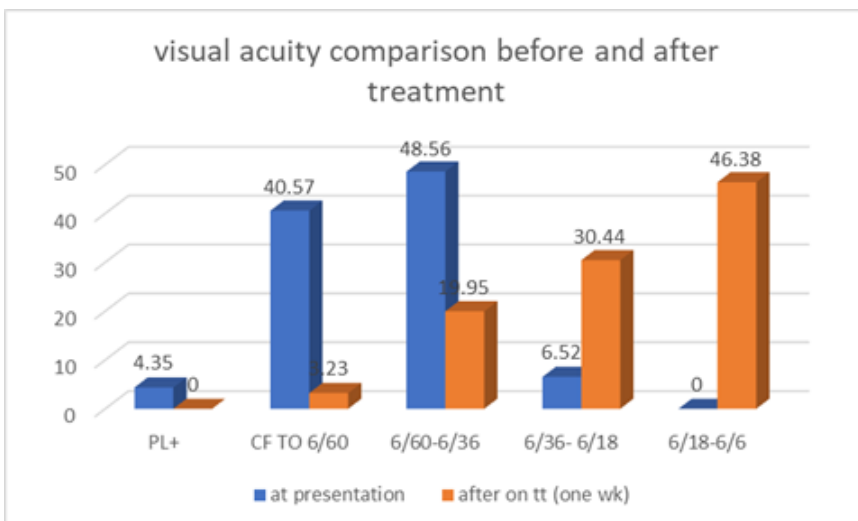


Table 4: Above displays the visual results of a one- and three-month ONTT regimen.

	On Follow Up	
	1 Month	3 Month
PI+	-	-
Cf To 6/60	3.23	3.23
6/60-6/36	11.62	4.72
6/36- 6/18	28.65	27.91
6/18-6/6	60.52	64.16
P Value	0.006*	0.002*

*based on chi square test, *significant at p value < 0.05

Figure 4: Comparison of color vision before and after therapy.

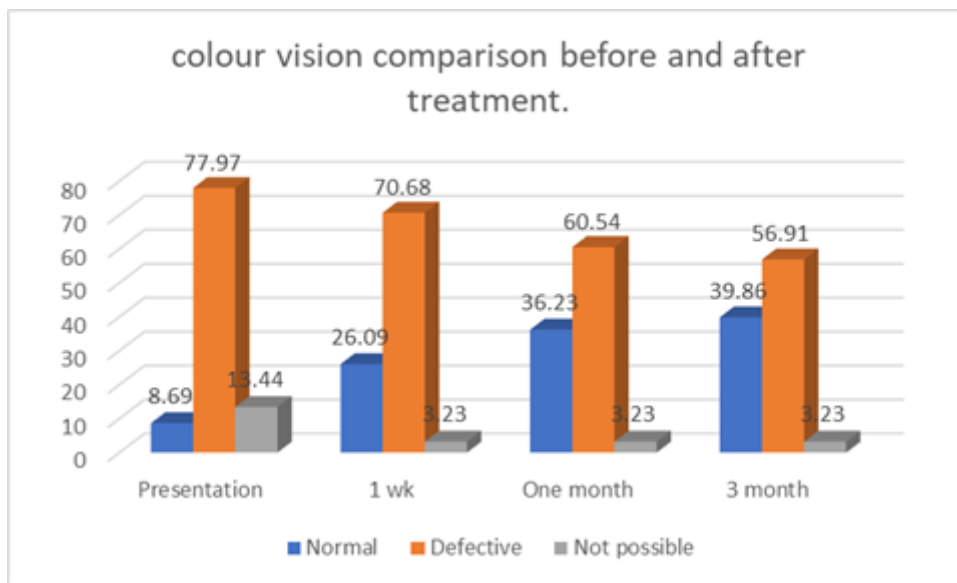
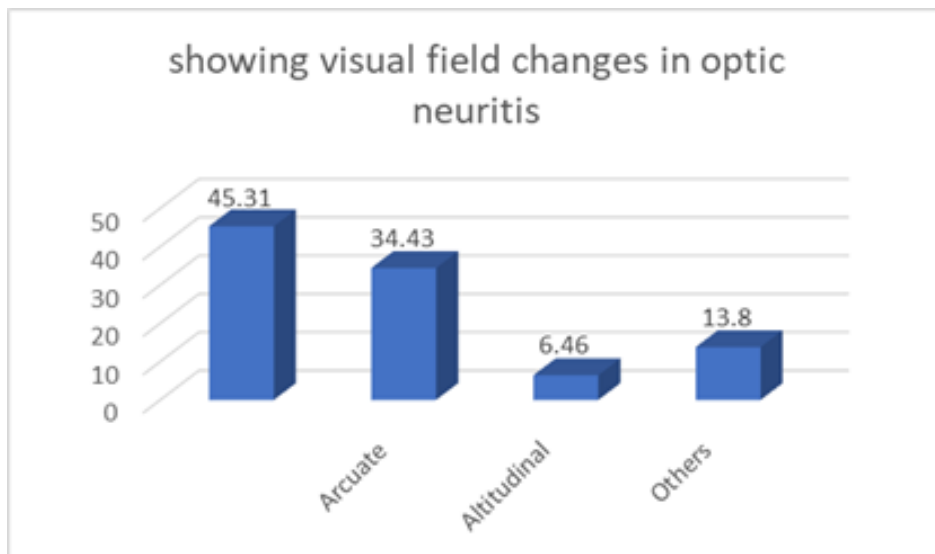


Figure 5: Displaying alterations in the visual field in optic neuritis



Discussion

The average age of presentation in this study was 39.3667 ± 14.03563 , with a range of 16 to 75 years. 34 individuals out of 60 had retrobulbar neuritis [56.7%], while 26 patients had papillitis [43.3%]. The ONTT and other investigations by Wakakura M et al. and Wang JC^{1,2} found similar findings regarding the age of presentation and female prevalence as did the current study. In the current study, 23.33% of the patients had bilateral presentation, which is higher than the 16%–35% described in prior studies from this region by Woung LC et al and Lim SA et al^{3, 4}, whereas an African study by Pokroy R et al⁵ found that it can reach 80%. While no impairment in color vision or visual field was observed, lower contrast sensitivity was indicative of fellow eye involvement in 6.66% of unilateral instances. Recurrence was more frequent with RBN and was observed in 2 cases, or 6.66 percent. According to the ONTT, individuals with MS and those without MS who received oral prednisolone treatment had a higher overall risk of recurrence, which was 28% at the 5-year follow-up⁶. This discrepancy can result from the current study's limited sample size and short study period.

Only 64.16 percent of the patients in the current study were able to achieve this degree of VA recovery, though. Both unilateral and bilateral cases showed comparable levels of visual recovery (58% versus 57.6% attaining VA of 6/12 or greater). This outcome is similar to a previous study conducted in India by Jain IS et al.⁷. The visual prognosis for idiopathic ON and ON linked to MS is thought to be favorable. According to an ONTT report, approximately 93.3% of patients achieved a VA of 6/12 or higher⁸.

Conclusion

At a tertiary care hospital, a prospective study was carried out. Throughout a one-year term in the

ophthalmology department. Sixty patients with a clinical diagnosis of optic neuritis participated in the trial. Patients who were post-infectious, parainfectious, or not a good candidate for intravenous steroids were not included. Every patient underwent a comprehensive evaluation, including VF, fundus, contrast sensitivity, color vision, pupil inspection, and VA.

Every patient received ONTT trial treatment, and a cause investigation and follow-up were conducted.

The findings showed that RBN and papillitis prevalence were nearly identical. While papillitis resolved slowly, patients with RBN reacted rapidly to the ONTT regimen. Following ONTT, VA improvement was statistically significant. Additionally, contrast and color vision improved.

Our research demonstrated that the ONTT regimen is beneficial for optic neuritis and promotes a quick recovery of vision.

References

1. Wakakura M, Minel-Higa R, Oono S, Matsui Y, Tabuchi A, Kani K, et al. Baseline features of idiopathic optic neuritis as determined by a multicenter treatment trial in Japan. Optic Neuritis Treatment Trial Multicenter Cooperative Research Group (ONMRG) Jpn J Ophthalmol. 1999;43:127–32.
2. Wang JC, Tow S, Aung T, Lim SA, Cullen JF. The presentation, aetiology, management and outcome of optic neuritis in an Asian population. Clin Experiment Ophthalmol. 2001;29:312–5.
3. Woung LC, Lin CH, Tsai CY, Tsai MT, Jou JR, Chou P. Optic neuritis among national health insurance enrollees in Taiwan, 2000-2004. Neuroepidemiology. 2007;29:250–4

4. Lim SA, Goh KY, Tow S, Fu E, Wong TY, Seah A, et al. Optic neuritis in Singapore. *Singapore Med J.* 2008;49:667–71
5. Pokroy R, Modi G, Saffer D. Optic neuritis in urban black African community. *Eye (Lond)* 2001;15:469–73
6. Optic Neuritis Study Group. The clinical profile of acute optic neuritis: experience of the Optic Neuritis Treatment Trial. *Arch Ophthalmol* 1991; 109: 1673–1678.
7. Jain IS, Munjal VP, Dhir SP, Gangwar DN. Profile of optic neuritis in Chandigarh and surrounding areas. *Indian J Ophthalmol.* 1980;28:195–200.
8. Beck RW, Cleary PA, Backlund JC. The course of visual recovery after optic neuritis. Experience of Optic Neuritis Treatment trial. *Ophthalmology.* 1994;101:1771–8.