International Journal Dental and Medical Sciences Research
Volume 4, Issue 1, Jan-Feb 2022 pp 32-36 www.ijdmsrjournal.com ISSN: 2582-6018

Presentation and Causes of Optic Disc Edema in Tertiary Care Hospital in Bhubaneswar

Dr. Varsha Behera, Dr.Tahmin Ahmed & Prof. Dr. P.K.Nanda

Submitted: 01-01-2022 Revised: 07-01-2022 Accepted: 10-01-2022

I. INTRODUCTION

Optic disc edema is a pathological condition with a variety of causes. The clinical causes associated with unilateral optic disc swelling are optic neuritis (ON), non- arteritic anterior ischemic optic neuropathy (NA-AION), compressive optic neuropathy, retinal-vein occlusion, diabetic papillopathy etc. Cases with bilateral optic disc swelling are often associated with papilloedema, infiltrative optic neuropathy, toxic optic neuropathy, and malignant hypertension.

However, there have been no studies on the common causes and clinical features of optic disc swelling in Odisha . Therefore, the purpose of this study was to determine the clinical manifestations and etiology of optic disc edema in patients in Odisha.

II. MATERIALS AND METHODS

This is an observational study. This study was conducted at the department of Ophthalmology in a tertiary hospital in Bhubaneswar.

This study was conducted from October 2019 to October 2020. All consecutive cases of optic disc edema diagnosed at the department of Ophthalmology were enrolled for this study.

The study population consisted of 30patients out of which 20 were males and 10 were females. All the patients were subjected to detailed ophthalmic examination including visual acuity, detailed slit lamp examination, 90D examination, indirect ophthalmoscopy examination, color vision, fundus photography, fundus fluorescein angiography whenever indicated.

III. RESULTS

Our study included 50 eyes of 30 patients. Among 30 patients, 16 were males and 14 were females. The mean age of patient was 32.93 (Range 15 to 62 years). Majority of the patients were between the age group of 30 to 60 years . Two patients were within the age group of 10 to 20 years.

The most common cause for optic disc swelling in our study was papilloedema which was seen in 15 patients. The next common cause was optic neuritis which was seen in 7 patients. It was followed by diabetic papillopathy and AION seen in 3 patients each.

20 patients had bilateral optic disc swelling. Among them, 15 patients had papilloedema, 3 had optic neuritis, 1patient each had neuro-retinitis and LCH.

Of the 15 cases who had papilloedema,5 patients had intracranial hemorrhage, 3patients had subdural hematoma,3 patients had grade IV hypertensive retinopathy2 patients had meningitis ,2 patients had idiopathic intracranial hypertension.

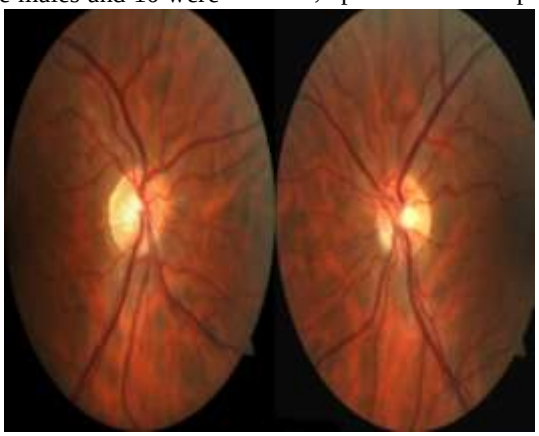

Figure : optic neuritis

International Journal Dental and Medical Sciences Research
Volume 4, Issue 1, Jan-Feb 2022 pp 32-36 www.ijdmsrjournal.com ISSN: 2582-6018

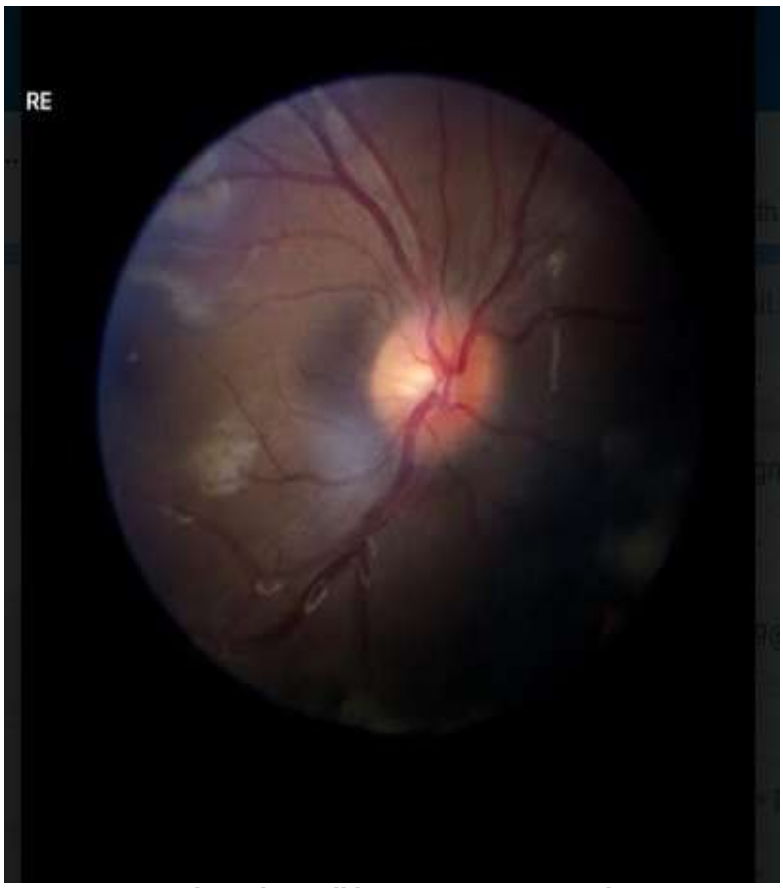

Figure: langerhanscell histiocytosis seen in right eye

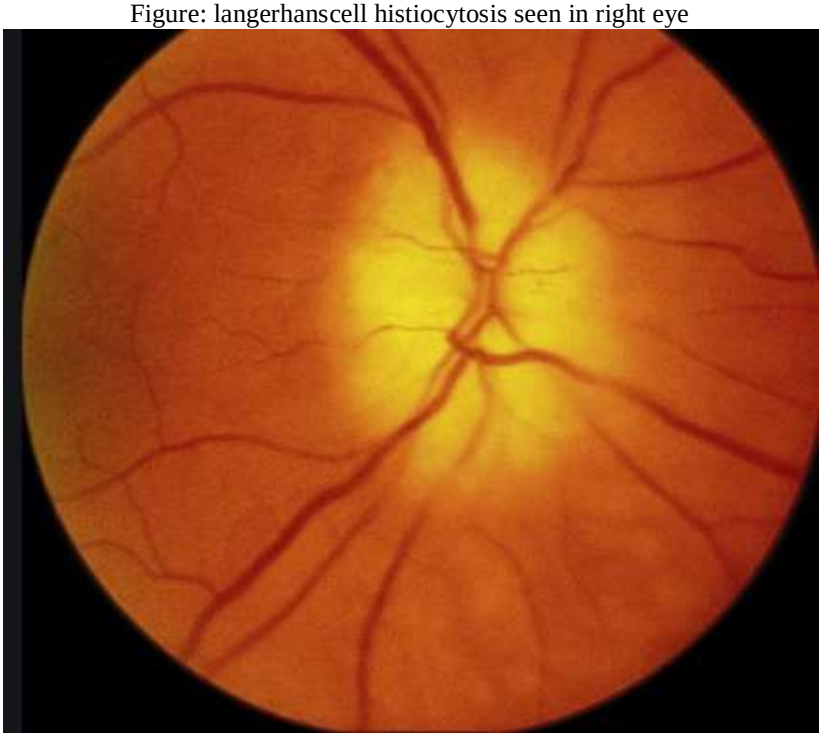

figure: NA-AION

International Journal Dental and Medical Sciences Research
Volume 4, Issue 1, Jan-Feb 2022 pp 32-36 www.ijdmsrjournal.com ISSN: 2582-6018

CAUSES OF DISC EDEMA

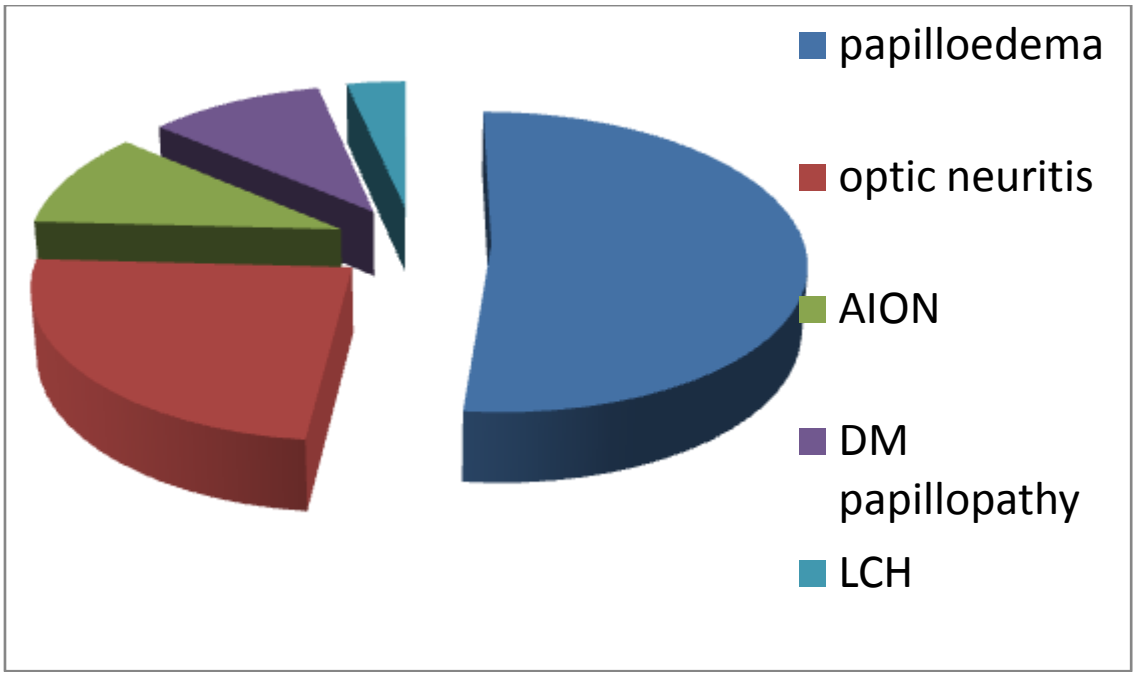

Figure: causes of disc edema represented a pie-chart

CAUSES OF BILATERAL DISC EDEMA

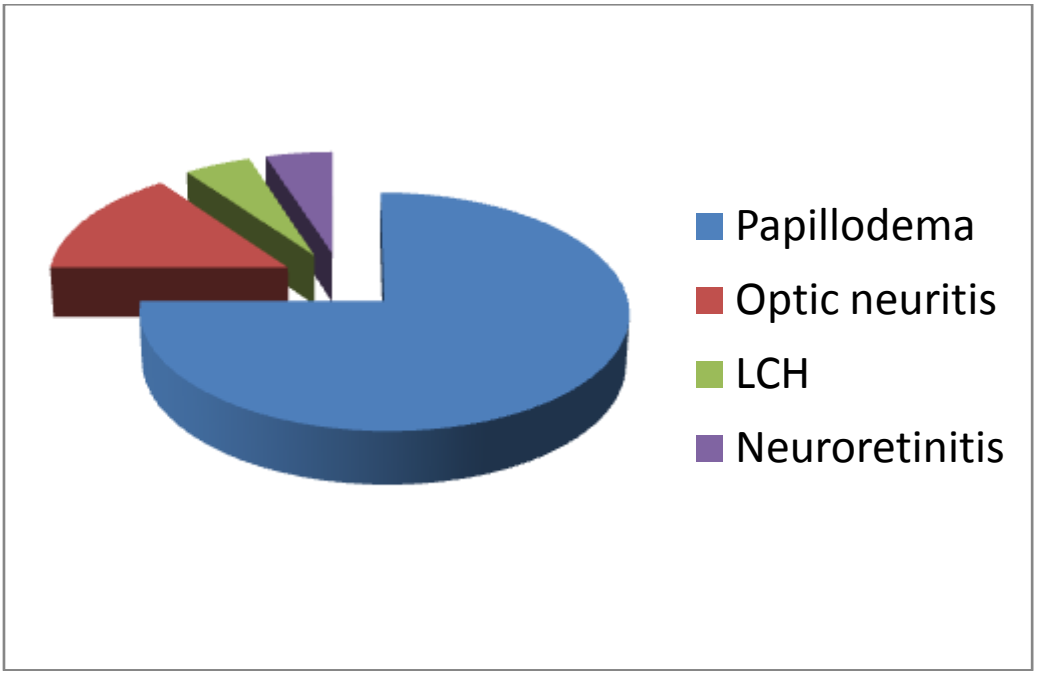

Figure: causes of bilateral disc edema represented as pie-chart

International Journal Dental and Medical Sciences Research
Volume 4, Issue 1, Jan-Feb 2022 pp 32-36 www.ijdmsrjournal.com ISSN: 2582-6018

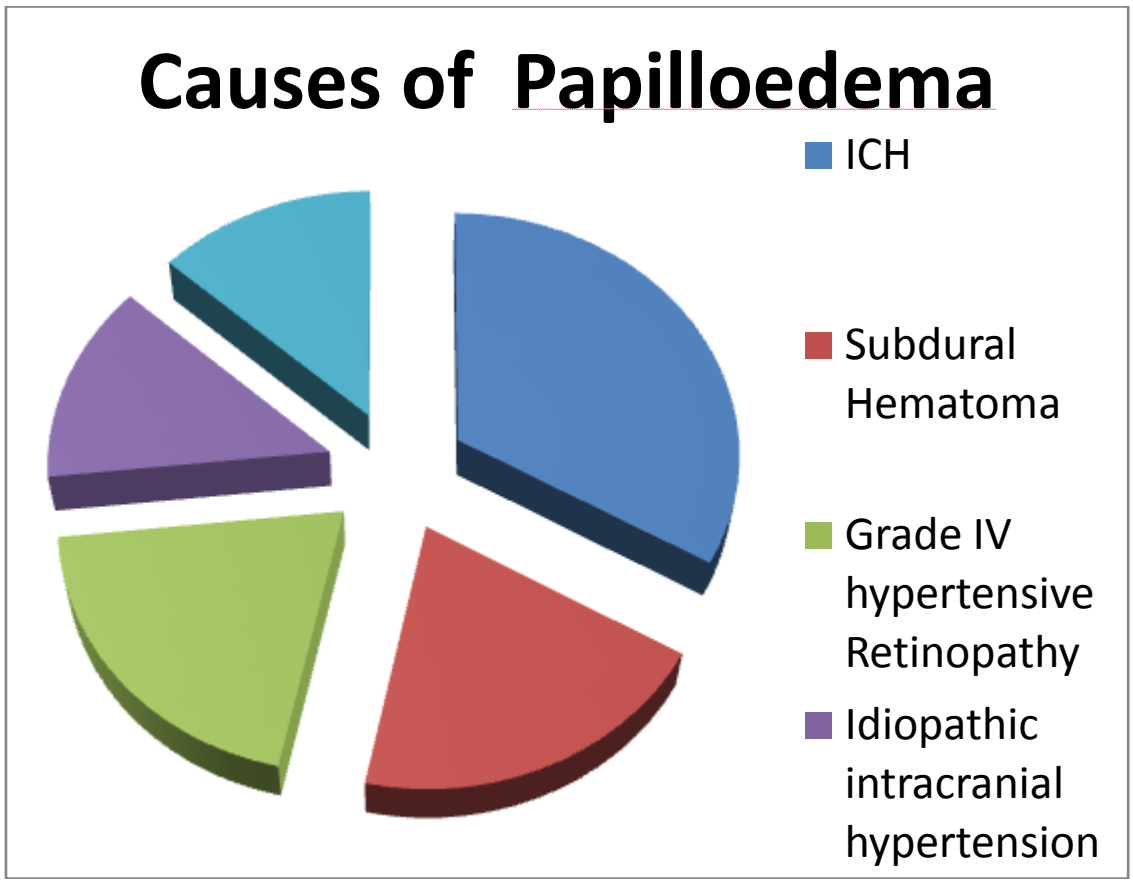

Figure: causes of papilloedema represented as pie-chart

IV. DISCUSSION

Optic disc edema is the end result of many pathological processes, some relatively benign, some with devastating visual and neurological consequences. Differentiating among the various etiologies depends on a thorough history and complete examination with careful attention to the optic disc.

Papilloedema implies disc swelling due to elevated intracranial pressure, and can be distinguished from other causes of disc edema by clinical features. Congenitally anomalous optic discs may appear swollen, and proper recognition may spare patients unnecessary testing. The pathogenesis of disc swelling remains subject to debate, but the ultimate mechanism is backflow of axoplasmic transport.

In this study, we tried to find out the most common cause and presentation of optic disc edema in our region. There are many international studies on optic disc edema but very few small case series from India. In our study we included only the new cases of optic disc edema, old cases with pale disc were excluded from this study.

In this study , we found that optic neuritis is the most common cause of unilateral disc edema and papilloedema is the most common cause of bilateral disc edema. Decreased vision was the main complaint in the study, followed by headache and eye pain. Decreased vision was seen in 19 patients (63.33 %), it was seen in all patients of optic neuritis, AION, neuroretinitis , diabetic papillopathy , grade IV hypertensive retinopathy and idiopathic intracranial hypertension.

Patients with optic neuritis rarely complained of headache. Eye ache was seen in 5 patients (16.67%) which was more common in optic neuritis patients.Headache was seen in 15 (50%) patients, most commonly in patients with papilloedema. Papilloedema was seen in 15 cases. The causes of papilloedema were intracranial hemorrahges, subdural hematoma, meningitis, idiopathic intracranial hypertension and grade IV hypertensive retinopathy.1 case of neuroretinitis and LCH is also seen in our study although it was not as common as reported in earlier studies.

The limitations of our study are smaller sample size and a single centre study. It would be better to do a multicenter study to know the actual statistics of optic disc edema. The strength of this study was that this was a prospective study whereas all previous such studies were retrospective.

In conclusion, papilloedema and optic neuritis were the most common cause of optic disc oedema in our study

REFERENCES

[1]. Van Stavern GP. Optic disc edema. Semin Neurol 2007; 27:233-43.
[2]. Miller NR, Newman NJ, Biousse V, Kerrison JB, editors. Walsh & Hoyt's clinical neuro-ophthalmology: the essentials. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2008.
[3]. Optic Neuritis Study Group. The clinical profile of optic neuritis. Experience of the Optic Neuritis Treatment Trial. Arch Ophthalmol 1991; 109:1673-8.
[4]. The ischemic optic neuropathy decompression trial (IONDT): design and methods. Control Clin Trials 1998; 19:276-96.
[5]. Hayreh SS. Pathogenesis of optic disc edema in raised intracranial pressure. Prog Retin Eye Res 2016; 50:108–144.
[6]. Foroozan R, Buono LM, Savino PJ, Sergott RC. Acute demyelinating optic neuritis. Curr Opin Ophthalmol 2002; 13:375-80.
[7]. Hayreh SS. Ischemic optic neuropathies — where are we now?. Graefes Arch Clin Exp Ophthalmol 2013; 251:1873-84.
[8]. Rajendram R, Evans M, Khurana RN, Tsai JH, Rao NA. Vogt- Koyanagi-Harada disease presenting as optic neuritis. Int Ophthalmol 2007; 27:217–20.
[9]. Abematsu N, Shimonagano Y, Nakao K, Sakamoto T, Shimizu K, Hirashima S. A case of anterior ischemic optic neuropathy associated with Vogt-Koyanagi-Harada disease. Nippon Ganka Gakkai Zasshi 2006; 110:601–6.
[10]. Nakao K, Mizushima Y, Abematsu N, Goh N, Sakamoto T. Anterior ischemic optic neuropathy associated with Vogt- Koyanagi-Harada disease. Graefes Arch Clin Exp Ophthalmol 2009; 247:1417–25.
[11]. Optic disc swelling in Vogt-Koyanagi-Harada disease. Nakao K, Abematsu N, Mizushima Y, Sakamoto T. Invest Ophthalmol Vis Sci 2012; 53:1917-22.