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Original Research Paper

Medicine

ETIOLOGICAL PROFILE OF PATIENTS WITH PAPILLEDEMA

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ABSTRACT

Papilledema is a finding which harbors multiple etiologies. Hence a better understanding of this condition will assist in the early management and prevention of complication from papilledema itself as well as condition causing it.

OBJECTIVE: Aim of This study was to ascertain the etiological proportion of papilledema cases in IPD setting.

METHOD AND MATERIALS: 100 patient with initially confirmed papilledema as per modified frisen papilledema scale were retrospectively studied at Gandhi Medical College and Hamidia Hospital from May 2014 to December 2014. Patients undervent a detailed clinical evaluation followed by laboratory investigations and neuroimaging studies. Patient having optic disc edema other than raised ICT and patient whith head injury were excluded.

RESULTS: Present study showed female preponderance with F:M 1.2:1. Incidence was common in age groups of 2nd and 4th decade. Meningitis was the most commom etiology associated with papilledema observed in 38%, followed by intracranial hemorrhage(23%), cerebral venous thrombosis (20%),intracranial space occupying lesion (10%),idiopathic (9%).

CONCLUSION: Meningitis was the commonest etiology associated with papilledema.

KEYWORDS : papilledema frisen scale, meningitis, intracranial hemorrhage

INTRODUCTION Papilledema is the term used to describe optic disc swelling associated with ICP.[1, 2] studies have demonstrated papilledema to be an indirect marker of raised intracranial pressure. Since the first descriptions of papilledema on fundoscopic examination, a variety of diseases have been reported as presenting with papilledema. Modern evidence suggests that papilledema is caused by an increase in ICP that is transmitted to the SAS surrounding the optic nerve, thereby interrupting the metabolic processes of the nerve and consequently leading to edema, ischemia, and eventual visual impairment or loss.[3] The urgency of this condition and the need for its prompt recognition are as important now as they were in 1937 when Dr. Gordon Holmes addressed the Ophthalmological Society, saying: "As the essential etiological factor in papilledema is increase in ICP, the relief of this pressure will lead to its disappearance and remove the risk of blindness or serious deterioration of vision if it can be effected before secondary changes have developed in the disc.[4] Papilledema has gained increasing interest in recent years among neuro-ophthalmologists as the result of several clinical studies demonstrating that it may have not only diagnostic potential as a measure of increased ICP [5, 6, 7] but also therapeutic potential as a measure of disease severity and response to treatment.[8]Although bilateral disc swelling is often encountered in routine clinical practice, there is lack of recent Indian report that have studied the etiology of this condition

Need for the study Previous studies suggested varied distribution of etiology in papilledema in different geographic area. In our study we evaluate patient with papilledema presenting to medicine department for etiological proportion.

OBJECTIVE: Aim of This study was to ascertain the etiological proportion of papilledema cases in IPD setting

Material and methods

This study was conducted at Gandhi Medical College and Hamidia Hospital, Bhopal for a period of 8 months from May to December 2017.After informed consent 100 Patients with papilledema admitted in medicine department were examined thoroughly as per proforma. We included patients with papilledema on opthalmoscopic examination admitted in department of medicine. We excluded patients with optic disc swelling d/t other cause that do not involve raised intracranial pressure, and Patient with head injury.All subjects were subjected to routine and special investigation to ascertain the Etiological Proportion of papilledema. In this study patients included on the basis of fundus examination done by swan opthalmoscope, and graded according to frisen scale of papilledema . Patients who had papilledema undergoes to evaluation of history, general examination and investigational work up. Then all patient had neuroimaging to detect intracranial pathology and lumber puncture done in those patient who have no contraindication

Result:

This study population consisted of 45 male and 55 female with average age of (35). In this study cohort ,the most commom etiology of papilledema was meningitis (38),followed by intracranial hemorrhage (23) ,cerebral venous thrombosis (20) ,intracranial space occupying lesion (10) and idiopathic account for (9) Figure 1. When examining the etiology according to patients age group table 1 (eg.15-30year, 31-45 year, and > 45 year), meningitis was found to be the most frequently appearing condition. In the 15-30 year group which constitute 34 patients out of 100 , meningitis(22) and cerebral venous thrombosis(11) were present in majority of patients. In the 31-45 year group, which contain the majority of patients (38/100). Meningitis(16) was the leading cause of papilledema followed by cerebral venous thrombosis(09), idiopathic(07) ,intracranial space occupying lesion(05), and intracranial hemorrhage(01). Maximum etiologies were found in the 31-45 year age group. There were 28 patient in the > 45 year age group, in this group most common etiology was intracranial hemorrhage meningitis and cerebral venous thrombosis were not present in >45 year age group.

Figure 1 etiology of papilledema

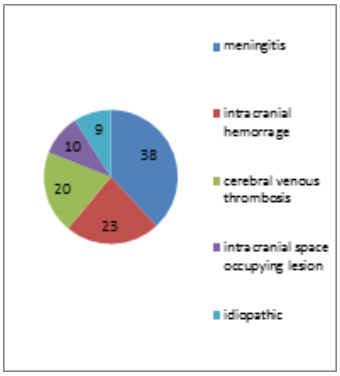

Table 1 etiology by age

Etiology	15-30yr	31-45yr	>45
Meningitis	22	16	0
Intracranial hemorrhage	0	01	22
Cerebral venous thrombosis	11	09	0
Intracranial space occupying lesion	0	05	05
Idiopathic	01	07	01

There were 20 patients of cerebral venous thrombosis out of them 11 patients were in 15-30 yr age group and 09 patients were in 31-46 yr age group ,19 patients were female only one patient was male ,mostly females were of child wearing age 17 females ot of 19 were post natal case and 2 patients on prednisolone for treatment of nephrotic syndrome and systemic lupus errythmatous.

Categorization of brain tumours revealed 9 primary brain tumour and one metastatic ,the most common type of brain tumour was meningioma (6) followed by astrocytoma (2),glioma(1)carcinoma of lung with metastesis to cerebellum(1).most common site was frontal lobe. table 2

Table:2 categorisation of brain tumor

Brain tumour	n	Tumour site Frontal	occipital	cerebellum
meningioma	6	4	2	-
astrocytoma	2	1	-	1
glioma	1	-	-	1
metastetic	1	-	-	1

Five out of nine patients of idiopathic group were obese females of childbearing age. After MRI confirmed the absence of intracranial lesions, the results of lumber puncture demonstrated that all patients had no CSF R/M abnormality. Table 3

Table 3proportion of idiopathic group

no	sex	Age (years)	Risk factor	MRI
5	F	25-40	obesity	normal
2	M	31,36	none	normal
1	M	44	hypertension	normal
1	M	60	Copd	normal

Discussion Papilledema is optic disc swelling due to raised intracranial pressure. Optic disc swelling from the causes that do not involve increased intracranial pressure is not considered papilledema.

This is a facility based descriptive cross sectional study of patients with papilledema where we studied etiology of initially confirmed papilledema. Although many text books have listed the etiology of bilateral disc swelling, there has been no recently published studies in Indian context that have listed the percentage of each etiology.In this study 100 patient were included after initial confirmation of papilledema with ophthalmoscope following which history of illness was taken, general examination and investigational work up was done. Then patients underwent neuroimaging to detect intracranial pathology and lumbar puncture was done in those patients who had no contraindication.

After complete work up, patients were distributed in group based on symptoms, neuroimaging finding and etiological proportion.

We compared our current findings with study that were published in 2014 by **Kei lijima et al** [9]n a group in japan. 38% of patients were diagnosed be suffering from meningitis making it the most common etiology in our study. In previous study most common cause of papilledema was ICSOL. Incidence of meningitis in this study was high probably because infectious diseases are more common in india as compared to other developed countries.

In this study Intracranial hemorrhage constituted 23% as compared to 7% in previous study reflecting poor compliance to drugs and follow up of patients in developing country

Incidence of cerebral venous thrombosis in our study was 20% as compared to 5% in previous study showing prevalence of more risk factors for CVT like anemia, dehydration, poor postnatal care etc.

Incidence of ICSOL in our study stood 10% compared to 44.4% in previous study. This study did not include patients of other department unlike Japanese study where they included patients of Kitasato University, Kanagawa, Japan.

Idiopathic group comprised of 9% of total cases whereas it was 6.9% in previous study.

CONCLUSION: Meningitis was the commonest etiology associated with papilledema.

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