



A CASE REPORT- PSEUDOTUMOR CEREBRI WITH BILATERAL SIXTH NERVE PALSY

Ophthalmology

Dr. Aishwarya Birla*

MS Ophthalmology *Corresponding Author

Dr. Akanksha

MS Ophthalmology

Dr. Neel Vala

MS Ophthalmology

ABSTRACT

Pseudotumor Cerebri, is a disorder with raised ICT. It mainly affects overweight woman of child-bearing age. **Materials And Methods:** A 21-year-old, moderately obese female presented to ophthalmology OPD with a 7-day history of progressive, generalized headache- most intense upon awakening and improving during the day. Gradual visual loss over the same time frame. She exhibited bilateral lateral gaze palsy. Ophthalmic examination – including slit lamp and indirect ophthalmoscopy with fundus photography, was performed to assess anterior segment and optic disc findings. Systemic evaluation and investigations excluded potential secondary causes. Based on these findings, diagnosis of IIH was made. The patient was advised to reduce weight and was started on topical and systemic pressure reducing agents. Within one week, symptom improvement was noted. **Discussion:** IIH is a diagnosis of exclusion. It requires elevated CSF pressure, normal CSF composition, absence of systemic hypertension, no intracranial space -occupying lesion, highlighting the importance of imaging and lumbar puncture. Typical symptoms include headache, visual impairment, and sixth nerve palsy; the presence of papilledema is a key diagnostic sign. **Conclusion:** Papilledema is the hallmark of this and is required to make a definite diagnosis, emphasizing the importance of a fundoscopic examination on all patients with new or unexplained headaches.

KEYWORDS

IIH, Papilledema, raised CSF pressure, Pseudotumor cerebri.

INTRODUCTION -

Pseudotumor cerebri (PTC), also known by the name idiopathic intracranial hypertension, is a disorder with increased intracranial pressure (ICP) and associated headaches, papilledema, vision changes, or pulsatile tinnitus in the setting of normal imaging and cerebrospinal fluid (CSF) studies.¹ It mainly affects overweight women of child-bearing age;² however, women of all ages, men, and children of both sexes may also be affected.³

IIH has an incidence of 1-2 per 100,000 in the general population and 0.63-0.9 per 100,000 in pediatric population (defined as <18 years old).⁴

In adults, IIH is disproportionately found in overweight woman of childbearing age, in whom as much as 4-21 per 100,000 people are affected.⁵

MATERIALS AND METHODS-

A 21year old moderately obese female presented to an eye OPD with diminution of vision since 7 days which was gradual in onset and progressive in nature, persistent headache 7 days which was generalized, gradual and progressive in nature, generally present on awaking in the morning and improves as the day goes on. Total lateral gaze limitation in both eyes. History of weight gain since past few years (chronic). No h/o other systemic illness, medications, addiction, etc.

Slit lamp examination done to rule out anterior segment signs.

Fundus examination done by Indirect Ophthalmoscopy, Fundus Photography showed both eye established papilledema.

Ocular Examination-

	R	L
VA	PL+ PR Full, HM +	PL+ PR Full, HM+
PUPIL	NS/CRL	NS/CRL
IRIS	NP SEEN	NP SEEN
LENS	CLEAR	CLEAR
FUNDUS	360 BLURRING OF OPTIC DISC MARGINS - ELEVATED ONH - SPLINTER HAEMORRHAGES AROUND THE DISC - FEW COTTON WOOL SPOTS + - ENGORGED BLOOD VESSELS - FEW HARD EXUDATES IN MACULAR AREA	360 BLURRING OF OPTIC DISC MARGINS - ELEVATED ONH - SPLINTER HAEMORRHAGES AROUND THE DISC - FEW COTTON WOOL SPOTS + - ENGORGED BLOOD VESSELS - FEW HARD EXUDATES IN MACULAR AREA
OCM/OCF	LATERAL GAZE LIMITATION	LATERAL GAZE LIMITATION
NCT	15 mmhg	18 mmhg
COLOR VISION	Not possible	Not possible
NEAR VISION	Not possible	Not possible

Systemic Examination- CNS:

- Higher Mental Function:** NAD
- Cranial Nerve Exam:** B/L 6th Nerve palsy
- Motor System Exam:** No deficit in bulk/tone/power is noticed
- Sensory System Exam:** No sensory deficit in primary or secondary sensory modality
- Reflex:** All Superficial and Deep tendon reflexes are normal
- Neck Rigidity:** Absent
- Coordination And Gait:** Normal

Investigations-

- BP-** 130/80 mmhg
- CSF:** Opening pressure- 42 cm of water (Elevated) Cells, Protein and glucose within normal limits
- CT brain with orbit is NAD.
- MRI brain with orbit is NAD.
- MR venogram is NAD.

Fundus Photography-

Both eye- 360 blurring of optic disc margin
Elevated ONH

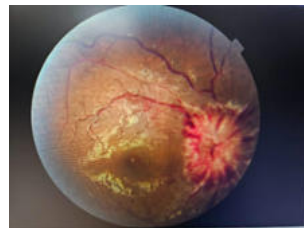
Splinter haemorrhages around the disc

Few cotton wool spots +

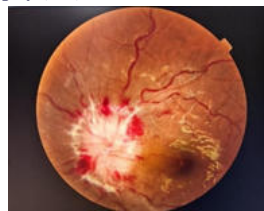
Engorged blood vessels

Few hard exudates in macular area

Impression D-Fundus examination BE s/o- Established papilledema



Fundus Photography (RE)

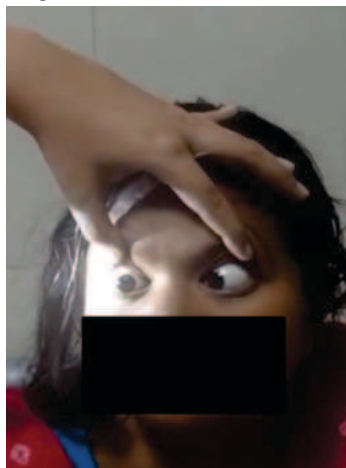


Fundus Photography (LE)

Ocular Movement Examination-

A verbal consent was taken from the patient before capturing the photos for the academic purpose.

No limitation in Supraversion and Infraversion in BE



Limitation in RE abduction in Dextroversion with normal LE adduction s/o RE 6th nerve palsy



Limitation in LE abduction in levoversion with normal RE adduction s/o LE 6th nerve palsy

CECT Brain With Orbit-

No any e/o infarct, haemorrhage or any space occupying lesion (NAD)
MRI BRAIN WITH ORBIT MR VENOGRAM- NAD

Treatment Given-

Diagnostic lumbar puncture: can transiently relieve symptoms or, in some cases, lead to a complete resolution.

Advice on weight reduction

Timolol 0.5% e/ds BD

Tab Acetazolamide 250 mg QDS

Inj. IV Mannitol 20% 2 stat

Patient was kept on routine follow up.

Improvement in symptoms seen within 1 week of treatment.

RESULTS AND DISCUSSION:

CSF is the fluid surrounding brain and spinal cord that supplies nutrients, also removes impurities from these structures.

Normally it gets reabsorbed from body through blood vessels. But if too much is produced and not enough is reabsorbed, builds up the pressure within the skull. This causes symptoms mimicking brain tumour, including worsening of headache and vision problems.⁶

Elevation of intracranial pressure with **normal composition of CSF** and with absence of **systemic hypertension**, absence of an **intracranial space occupying lesion** makes the diagnosis of

Idiopathic Intracranial

hypertension or pseudotumor cerebri as a diagnosis of exclusion.

Symptoms mimic those of a brain tumor.⁷ The increased intracranial pressure can cause swelling of the optic nerve and result in vision loss. Medications often can reduce this pressure and the headache, but in some cases, surgery is necessary.

Pseudotumor cerebri can occur in children and adults, but it's most common in women of childbearing age who are obese.

Presence of 6th nerve palsy as a **false localizing sign** of raised ICT. Papilledema is the primary ocular finding and may progressively lead to optic atrophy and blindness if not treatment is provided. Normal CNS examination showed that there is no other CNS aetiology present.

The Disease Prognosis Depends On Several Factors, Including:

- The rapidity of onset of symptoms: a more rapid onset requires more aggressive treatment.⁸
- Amount of vision loss at presentation: significant loss at the time of presentation suggests a higher risk of permanent vision loss.⁹
- The grade of papilledema at presentation: higher grades suggest a greater risk of permanent vision.¹

An opening pressure greater than 25cm H₂O in adults and greater than 28cm H₂O in children aged 1 to 18, in normal CSF studies and negative neuroimaging, suggests PTC.¹¹

Diagnosis involves the utilization of the **Modified Dandy Criteria**¹²

CONCLUSIONS

Pseudotumor cerebri is an important cause of daily persistent headaches and may lead to permanent visual loss if untreated. Papilledema is the hallmark of this and is required to make a definite diagnosis, emphasizing the importance of a fundoscopic examination on all patients with new or unexplained headaches.

Some studies have identified factors independently associated with a worse visual outcome:

- Gender (male)
- Race (Black)
- Morbid obesity
- Anemia
- Obstructive sleep apnea
- Acute onset of symptoms and signs of raised ICP (fulminant IHH)

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