

BILATERAL PAPILLEDEMA DUE TO UNDERLYING OCCIPITAL LOBE TRANSITIONAL MENINGIOMA

ANIRUDDHA MAZUMDER* , REENA KUMARI, DINESH BHAGAT

Department of Ophthalmology, Mata Gujri Memorial Medical College and LSK Hospital, Kishanganj, Bihar, India.

*Corresponding author: Aniruddha Mazumder; Email: miguelani1996@gmail.com

Received: 02 March 2024, Revised and Accepted: 15 April 2024

ABSTRACT

To report a case of bilateral papilledema due to underlying transitional meningioma in left occipital lobe in a 30-year-old female.

Keywords: Papilledema, Optical coherence tomography, Atypical meningioma, Hydrocephalus, Craniotomy.

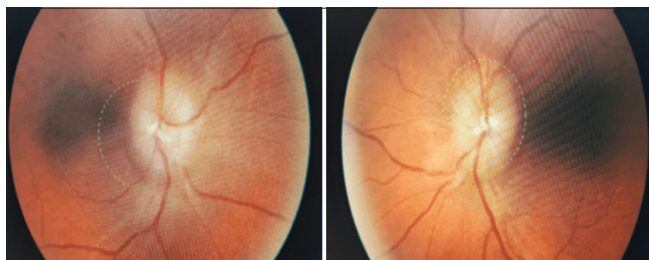
© 2024 The Authors. Published by Innovare Academic Sciences Pvt Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>) DOI: <http://dx.doi.org/10.22159/ajpcr.2024v17i5.51180>. Journal homepage: <https://innovareacademics.in/journals/index.php/ajpcr>

INTRODUCTION

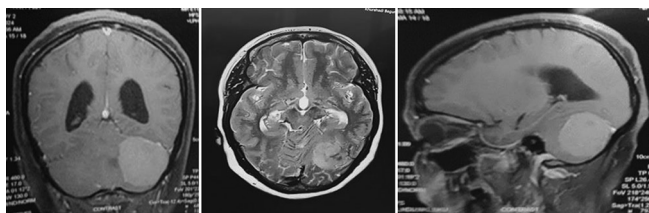
Optic disc swelling due to raised intracranial pressure (ICP) is known as papilledema. Orthograde axoplasmic flow stasis at the optic nerve head is the cause for optic disc edema. Long-standing pressure leads to ischemic damage to axons and ultimately optic atrophy [1].

CASE REPORT

A 30-year-old female came to outpatient department with a chief complaint of headache and diminished vision for the past 1 year. There is no associated vomiting, abnormal body movements, or flashes of light. The best corrected visual acuity (BCVA) in both eyes was 6/60. Systemic examination was unremarkable, and blood pressure recorded was 130/90 mmHg.



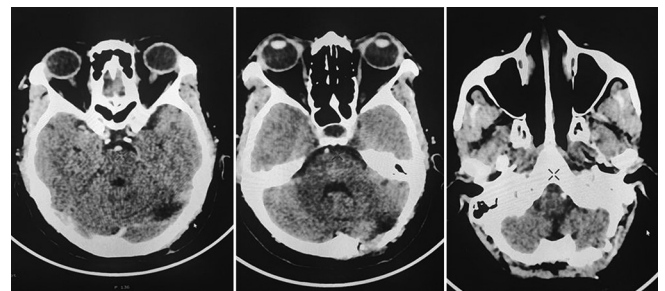
On torch light examination, pupils of both eyes were sluggishly reactive to light. Slit Lamp Biomicroscopy with 90D lens revealed bilateral Grade III papilledema (according to the modified Frisén scale) [2]. Intraocular pressure (IOP) was 20 mmHg in both eyes.



Color vision revealed severely impaired red-green dyschromatopsia. Optical coherence tomography (optic disc) confirmed elevated disc margins bilaterally with a cup: disc ratio of 0.1 and retinal nerve fiber layer defects in inferotemporal arcade of the right eye.

On contrast-enhanced magnetic resonance imaging, a large meningioma (4.2 cm×3.5 cm×3.9 cm) epicentered at the tentorial apex in the left cerebral hemisphere was suspected which led to raised intracranial pressure. A provisional diagnosis of atypical meningioma in the left occipital was made which was causing mass effect, hydrocephalus, and raised intracranial pressure.

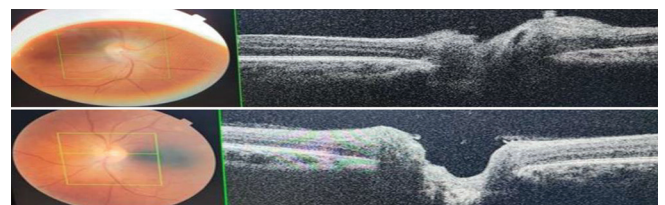
The patient was advised for urgent neurosurgical intervention. The procedure performed was left paramedian suboccipital craniotomy with tumor excision.



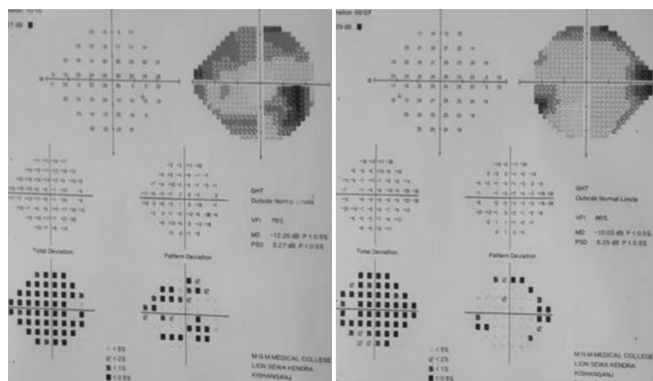
Post-operative contrast-enhanced computed tomography showed a complete excision of the tumor with preservation of brain parenchyma of occipital lobe, basal ganglia, and thalamus. Resolution of hydrocephalus with reduced intracranial tension was also noted.

Histopathological examination of the mass revealed transitional meningioma of CNS (the World Health Organization grade 1) without any evidence of invasion of brain parenchyma nor any metastasis [3].

On eye examination, right BCVA was 6/9 and left BCVA was 6/6 with bilateral brisk, reactive pupil and reduced bilateral IOP of 16 mmHg.



The right optic disc showed mild blurring of nasal disc margin of right eye remaining. Left optic disc margins were clearly visible with a CDR of 0.3.



Color vision revealed mild dyschromatopsia but marked improvement from pre-operative status. Humphrey visual field analysis revealed a residual inferonasal quadrantopia in the right visual field.

DISCUSSION

Meningiomas represent a diverse range of tumors originating from the meninges, the protective layers surrounding the central nervous system. Typically, these tumors grow inward toward the brain, presenting as well-defined masses anchored to the dura mater. Their spherical or lobulated shape and smooth, clear borders distinguish them, preserving histologic structures thanks to the encapsulating tumor capsule. This characteristic facilitates surgical removal with minimal damage to surrounding brain tissue [4]. However, atypical meningiomas present more aggressively.

Ma *et al.* [5] studied 298 patients diagnosed with transitional meningioma of which 213 were women (71.5%), the median age being 52 years. Radiologically, 144 tumors (48.3%) were in the skull base. Gross total resection was successful in 266 patients (89.3%).

However, recurrence is not uncommon in transitional meningiomas, and 23 patients (8.6%) had developed recurrence. For the first tumor recurrence, 11 patients (47.8%) underwent gamma knife radiosurgery, and only 2 patients developed a second recurrence [5]. Gamma knife

radiosurgery might be an effective therapy for patients with tumor recurrence.

CONCLUSION

The eyes are the gateway to underlying diseases of the body. Careful ocular examination reveals many diseases before systemic symptoms develop.

In this case, the patient had an intracranial space occupying lesion causing raised intracranial pressure which was clinically diagnosed by fundus examination. Early diagnosis of lesion and prompt treatment saved this patient's vision.

FINANCIAL DISCLOSURE

No financial disclosure.

CONFLICTS OF INTEREST

Nil.

CONSENT

Written informed consent of the patient's guardian was taken.

REFERENCES

1. Rigi M, Almarzouqi S, Morgan M, Lee A. Papilledema: Epidemiology, etiology, and clinical management. *Eye Brain*. 2015;7:47-57. doi: 10.2147/EB.S69174
2. Frisén L. Swelling of the optic nerve head: A staging scheme. *J Neurol Neurosurg Psychiatry*. 1982;45:13-8.
3. Goldbrunner R, Stavrinou P, Jenkinson MD, Sahm F, Mawrin C, Weber DC, *et al.* EANO guideline on the diagnosis and management of meningiomas. *Neuro Oncol*. 2021 Nov 2;23(11):1821-34. doi: 10.1093/neuonc/noab150. PMID: 34181733; PMCID: PMC8563316
4. Kim JH, Kim YJ, Kim H, Nam SH, Choi YW. A rare case of transitional meningioma. *Arch Plast Surg*. 2015 May;42(3):375-7. doi: 10.5999/aps.2015.42.3.375. PMID: 26015901; PMCID: PMC4439605
5. Ma XJ, Zhang GJ, Wang W, Li D, Wu Z, Zhang JT. Proposed treatment for intracranial transitional meningioma: A single-center series of 298 cases. *World Neurosurg*. 2019 Jul;127:e280-7. doi: 10.1016/j.wneu.2019.03.104. PMID: 30902770