Bilateral Disc Edema – Unilateral Presentation for a Bilateral Disease
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Abstract
An African American female presents to the emergency room with atypical symptoms of unilateral eye pain. Fundus examination and neurological diagnostic testing confirms idiopathic intracranial hypertension. The patient is subsequently treated with Diamox and Topamax.

I. Case History
A 33 year old African American female presented to the emergency room with the chief complaint of the initial onset of tenderness of her left eye for the past three days. She described the pain as a sharp, numbing pain along the superior medial aspect of the eye that worsened with palpation and eye movement. The patient denied recent changes to weight, new headaches, diplopia, and blurred vision. The patient had a significant medical history of migraines, diet controlled diabetes, hypertension, hyperlipidemia, obesity, iron deficiency anemia, sinusitis, and insomnia. The patient was currently treated with vicodin, butalbital, tramadol, magnesium oxide, verapamil, lisinopril, and cyclobenzaprine. The patient denied taking birth control pills, tetracycline, and vitamin A. The patient had a longstanding history of migraine headaches, photophobia, and hearing whooshing sounds from her right ear for the past five years. The patient reported having mild symptoms of sinus congestion and denied having a recent onset of a fever.

II. Pertinent Findings
The patient’s best-corrected visual acuity was 20/20-1 O.D. and O.S. There was a mild relative afferent pupillary defect in the left eye. Color vision was normal in both eyes. Goldmann tonometry yielded IOPs of 21 mmHg OU. Analysis of the threshold perimetry revealed a normal visual field in the right eye and a relative central scotoma in the left eye. Dilated exam of the optic nerves revealed a cup-to-disc ratio of 0.15 x 0.15 O.U. with bilateral grade 1+ disc edema nasally OS>OD. The macula was unremarkable in both eyes. SD-OCT RNFL revealed abnormal thickening of the retinal nerve fiber layers in both eyes. The patient was then seen by neurology for consultation and co-management. Subsequent MRI with and without contrast of the brain revealed no abnormalities. Follow-up lumbar puncture revealed elevated opening pressure of 29 mm H2O with normal CSF studies, proteins, glucose levels, was colorless, and had no cells or organisms. Thyroid-stimulating hormone levels, angiotensin-converting enzyme, and erythrocyte sedimentation rates were within normal limits.

III. Differential Diagnosis
1. Idiopathic Intracranial Hypertension
2. Acute Optic Neuritis
3. Hydrocephaly
4. Sinus Inflammation
5. Sarcoidosis
6. Intracranial Tumor

IV. Diagnosis and Discussion
Bilateral nasal disc edema and elevated lumbar puncture was consistent with idiopathic intracranial hypertension. Unilateral eye pain and relative central scotoma were suggestive for acute optic neuritis.
This was unlikely due to lack of abnormalities found on MRI, CSF, and visual system. On subsequent visit with neurology, the patient reported bilateral eye pain, which reduced the likelihood of acute optic neuritis.

V. Treatment, Management
The patient was started on Diamox 250mg BID PO for the treatment of idiopathic intracranial hypertension with resolution of symptoms. The patient was concurrently started on Topamax 50mg BID PO and slowly increased to 100mg BID PO to treat her migraines prophylactically and aid in weight loss. On follow-up in the eye clinic, the bilaterally disc edema nasally was revolving based on clinical examination and SD-OCT RNFL. We scheduled the patient to return in three months for follow-up. Given a more severe presentation such as visually threatening visual field defects, we would have sent the patient to neuro-ophthalmology for a surgical consult for optic nerve sheath decompression, ventricular-peritoneal shunt, or ventricular-peritoneal shunt.

VI. Conclusions
The following case demonstrated an initially atypical presentation of idiopathic intracranial hypertension in a patient with multiple confounding symptoms and medical conditions. Through collaboration with colleagues, careful attention to clinical findings, and exercising a systematic approach to clinical care led to the proper diagnosis and management of the patient.

Bibliography