



A Case of Idiopathic Intracranial Hypertension with Optic Nerve Hemorrhage and Drusen

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Introduction

- Idiopathic intracranial hypertension (IIH) is chronically elevated intracranial pressure (ICP) of unknown etiology
- IIH diagnostic criteria includes signs and symptoms of elevated ICP, exclusion of common etiologies, and lumbar puncture (LP) opening pressure of >25 cm H₂O¹
- Visual prognosis is typically favorable, but it is important to understand factors associated with permanent vision loss
- Papilledema is the defining feature of IIH; optic disc hemorrhages (ODH) occur in 28.4% of affected eyes²
- Optic disc drusen (ODD) may be mistaken for papilledema due to the elevated appearance of the optic nerve head (ONH)
- Concurrent papilledema and ODD in IIH has only been documented in 13 cases³
- Here we describe a case of IIH with ODH and ODD

Case Report

- A 27-year-old female with a BMI of 42 was referred for papilledema OU
- Symptoms included: new nausea, 1 year of intermittent headaches, and 1 month of transient visual obscurations
- Medications: PO OCP, PO Doxycycline
- BCVA: 20/20 OD, 20/20 OS; IOP: 10 OD, 11 OS; no RAPD
- Funduscopy showed elevated ONH OU
- B-scan revealed ONH drusen OU
- HVF 24-2 revealed non-specific defects
- MRI Brain WWO/MRV Head were unremarkable
- Recommended stop PO Doxycycline
- At 1-month follow-up, new tunnel vision and worse positional headaches
- Exam revealed new ODH and increased ONH elevation OU (Figures 1 and 2)
- Recommended go to ED immediately
- Lumbar puncture revealed opening pressure of 39 cm H₂O
- She started PO Diamox 500 mg BID and established follow-up with Neurology

Testing

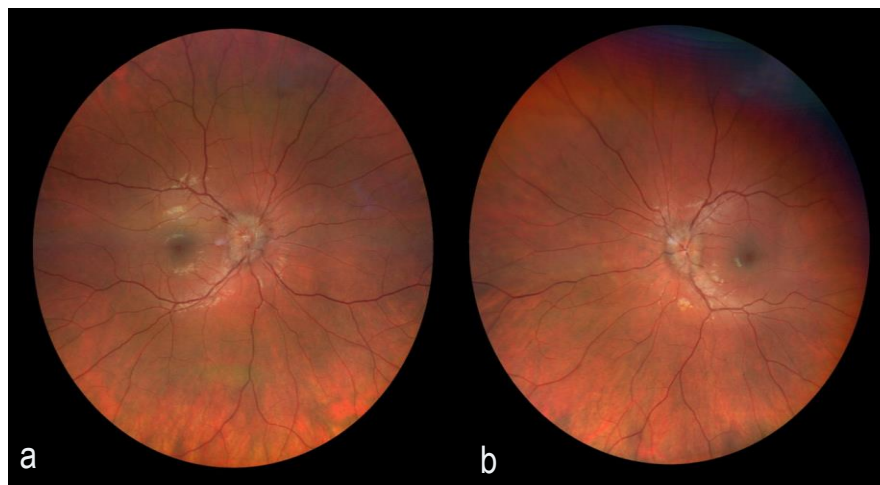


Figure 1a: Fundus photo of right eye shows grade 2 edema with disc hemorrhage and obscuration of vessels
Figure 1b: Fundus photo of left eye shows grade 2 edema with disc hemorrhage and obscuration of vessels

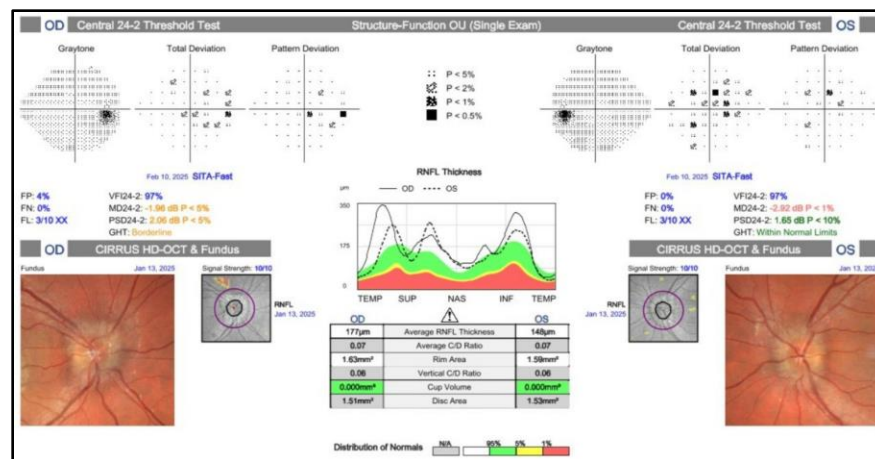


Figure 2: HVF 24-2 with non-specific defects OU. OCT RNFL with ONH elevation OU.

Discussion

- Common etiologies of elevated ICP include increased cerebrospinal fluid (CSF) production, decreased CSF resorption, CSF outflow obstruction, an intracranial mass lesion, malignant hypertension, and pharmacologic effects¹
- Our patient presented normotensive with unremarkable neuroimaging. Ophthalmic examination was most consistent with pseudopapilledema from ODD; PO Doxycycline, which may induce IIH, was discontinued out of precaution^{4,5}
- The interval progression of ONH elevation prompted further workup, which revealed a diagnosis of IIH that was masked by her known ODD
- The prognostic value of ODH is inconclusive. Miceli et al. concluded ODH does not independently predict poor visual outcomes when controlling papilledema severity. Conversely, Wall et al. concluded ODH occurs more frequently in treatment failure subjects, thus it may be associated with poor visual outcomes⁶
- There is currently no literature on the prognostic value of ODD and concurrent IIH. The first reported case in Latin America showed no vision loss after resolution with 8 weeks of acetazolamide treatment.³ ODD presents more commonly after the resolution of papilledema than concurrently, but its prevalence is not significantly greater than that of the general population.⁸ This supports a coincidental relationship between ODD and IIH
- Ultimately, prognosis should be determined based on established associations, including hypertension, acuity of onset/progression, severity of visual loss on presentation, Frisén grade on presentation, continual weight gain, and the presence of bilateral transverse sinus stenosis^{1,8}
- Although this case of IIH with ODH and ODD is rare, no evidence supports a worse prognosis based on these factors alone

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