ORIGINAL RESEARCH PAPER
VOLUME-6 | ISSUE-5 | MAY - 2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

Myopia with Bilateral Optic Disc Drusen Mimicking Papilledema- A Case Report

OPHTHALMOLOGY

Dr. Bhawesh Chandra Saha Senior Resident AIIMS. PATNA

Dr. Rashmi kumari Senior Resident RIO, IGIMS PATNA

ABSTRACT

Myopia with bilateral disc swelling are more likely to be misdiagnosed as Papilledema. We report a case referred to us with suspicion of papilledema. Following ophthalmologic evaluation with fundus photography, B-scan ultrasound, visual field test, OCT, and computed tomography, the diagnosis of papilledema was excluded and buried optic disc drusen was made.

KEYWORDS:

optic disc drusen,myopia,papilledema

Case

A10 years old female girl was referred to IGIMS, by a local ophthalmologist for evaluation and treatment of bilateral optic disc swelling. She had history of wearing glasses for more 3 years and had visited a local doctor as a part of routine eye check up when her glasses were broken.She had no relevant ocular, neurological and other systemic history. Unaided visual acuity in both eyes was 5/60, after correction with – 3DS visual acuity was 6/6 both eyes. Ishihara colour vision test findings were normal . On ocular examination no remarkable finding was found in the anterior segment. Fundoscopy revealed swelling and a fluffy appearance of both optic discs with normal colour and blurred disc margin and obliterated cup.Vessels were within normal calibre. (**figure1**) Venous pulsation was present on slight indentation. B-scan ultrasonography revealed a hyperechoic region over the optic nerve head (**figure 2**). Visual field analysis did not reveal any defect. SD-OCT showed elevated optic nerve head with lumpy internal contour and abrupt end to hyporeflective space suggestive of buried optic nerve head drusen**.** **(figure 3)** CT Scan of brain was normal but orbit revealed a calcified image of the optic nerve head**(figure 4)**.

Diagnosis of myopia with bilateral optic disc drusen was made and explained to the patient with reassurance and advise of regular follow up.

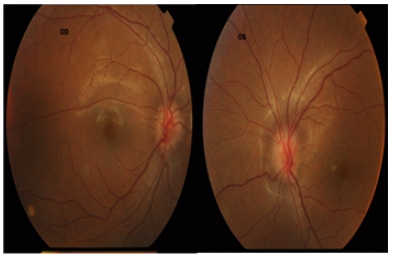


Figure 1

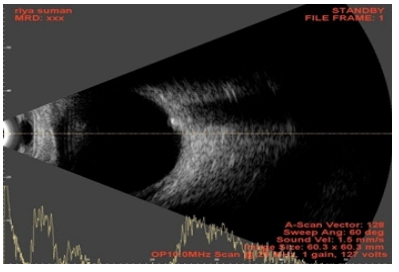


Figure 2

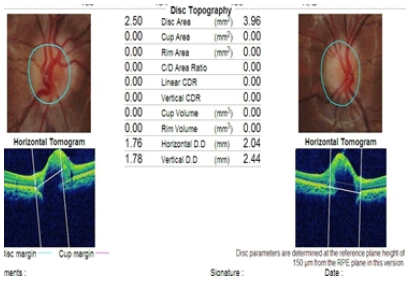


Figure 3

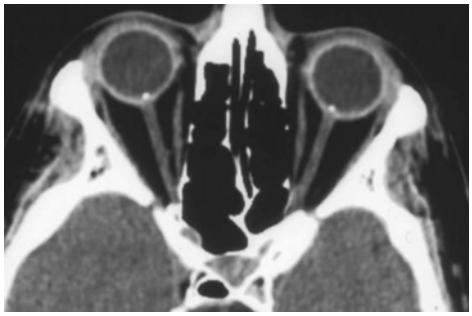


Figure 4

DISCUSSION

Optic disc drusen (ODD) are yellow, opalescent, hyaline excrescences derived from calcified axonal debris present on the surface of the optic disc or buried within it. They reportedly occur in 0.3-2% of the general population, are bilateral in 70% of cases, and have no sex predilection.[1-3] ODD are inherited in an irregular dominant fashion.[4]

The ophthalmoscopic appearance of ODD depends upon their location within the optic nerve head. They may be buried (usually in young patients)[1] or superficial. The diagnosis of ODD is very easy in cases with superficial ODD, but most young children with ODD present with elevated optic discs due to buried drusen.[5] Therefore, children and young adults are particularly vulnerable to misdiagnosis, such as papilledema.

Papilledema due to increased intracranial pressure is associated with optic disc hyperemia and a swollen peripapillary retina, which obscures the retinal vessels at the disc margin. Soft exudates and peripapillary hemorrhage is more likely with papilledema. Furthermore, spontaneous venous pulsation is absent in

papilledema. There is often severe frontal headache and it is occasionally associated with nausea and vomiting.

Impairment of visual acuity is rare in ODD, but insignificant visual field defects may occur in up to half of cases.[6] Most common visual field defects in ODD are inferior nerve fibre bundle defects, enlargement of the blind spot, and generalized constriction.[8]

USG, CT, and OCT are required for a correct diagnosis of ODD[1-9] However, ODD are generally not calcified in young patients and USG cannot detect them in such cases. Orbital and cranial CT are suitable for excluding the diagnosis of an intracranial mass lesion and possibly to simultaneously detect buried drusen of the optic nerve head.

A very recent study has shown that OCT can differentiate papilledema from ODD. Patients with disc edema have a smooth internal disc contour compared to the lumpy appearance found with optic disc drusen.[10] In addition, optic disc edema demonstrates a V-shaped hyporeflective space between the sensory retina and the RPE that is minimal or absent with optic disc drusen. OCT is also useful to follow NFL changes over time.

The fundus picture of pseudopapillitis or pseudopapilledema in hypermetropia is well known but in myopia it imposes diagnostic difficulty and may easily be misdiagnosed as papilledema .We diagnosed ODD via a fundus examination, B-scan USG. We then further confirmed the diagnosis of ODD with CT to assure the patients regarding absence of any intracranial pathology.

While there is no effective treatment for ODD, regular examinations should be carried out in order to detect progression of visual field loss, non-arteritic anterior ischemic optic neuropathy (NAION), branch retinal vein occlusion (BRVO), central retinal vein occlusion (CRVO) and subretinal neovascularization.

CONCLUSION

Swelling of the optic discs does not always mean elevated intracranial pressure, and therefore other causes should be kept in mind before coming to a final conclusion based on all relevant clinical findings. Importantly, the early diagnosis of ODD spares the patient unnecessary anxiety about intracranial disease and prevents unnecessary interventions. The ophthalmologist, neuro-logist, and the reporting radiologist must therefore consider ODD when dealing with atypical cases of disc swelling.

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