Abstract: Optic disc drusen are hyaline like calcific material within the substance of the optic nerve head. They are bilateral in 85 percent of the cases and may mimic papilledema. We report a case of a 11 year old male presenting with unilateral disc edema. On ophthalmological evaluation, B scan ultrasonography revealed the presence of an unilateral buried optic disc drusen. Clinical suspicion of optic disc drusen in cases of optic disc swelling though unilateral is important to avoid unnecessary investigations.

Keyword: optic disc drusen, pseudopapilledema, B scan ultrasonography

UNILATERAL BURIED OPTIC DISC DRUSEN MIMICKING DISC EDEMA – A CASE REPORT

INTRODUCTION:
Optic disc drusen are hyaline like proteinaceous material located within the substance of optic nerve head. Disc drusen are thought to be composed of small conglomerates of mucopolysaccharides and proteinaceous material that become calcified with advancing age. The pathogenesis of optic disc drusen is unknown but there are various theories explaining its occurrence namely abnormal axonal metabolism causing intracellular mitochondrial calcification, congenital dysplastic discs and smaller sceral canal physically compressing the optic nerve blocking axoplasmic flow and axonal damage which in turn extrude their mitochondria and serve as nidi for calcification. Optic disc drusen are found in about 0.3% of population. They are bilateral in 85% of cases. Optic disc drusen may be inherited or may occur without any family history. Familial drusen are inherited as an autosomal dominant trait with irregular penetrance. Most patients are asymptomatic and remain so throughout life. Nevertheless some patients may experience peripheral visual field defects. Very rarely optic disc drusen may cause complications like juxtapapillary neovascularisation, central retinal arterial and venous occlusions. Optic disc drusen appear as white/yellow refractile bodies on the surface of the disc. Buried drusen may not be visualised in fundus examination and can cause elevation of the optic disk with blurred optic disk margins, and may be confused with disk edema. Buried disc drusen are an important differential diagnosis for papilledema and their diagnosis is clinically important to avoid anxiety and unnecessary interventions. Although optic disc drusen are mostly bilateral, on rare occasions patients may have unilateral drusen and if it is buried it can be mistaken for disc edema and can cause diagnostic dilemmas. A case of unilateral buried optic disc drusen is presented to highlight its importance as differential diagnosis in such scenarios.

CASE REPORT:
A 11 year old male evaluated for headache was referred to us with the finding of left unilateral disc edema, with a normal CT orbit and MRI brain report.

HISTORY:
Patient had headache for past 6 months. No complaints of defective vision. No other ocular complaints. No history suggestive of any systemic illness.

OCULAR EXAMINATION:

Anterior segment examination:

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<tr>
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<th>RIGHT EYE</th>
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<tr>
<td>Pupil</td>
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<td>Conjunctiva</td>
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<td>Lens</td>
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<td>Extraocular movements</td>
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REFRACTION:
Patient had an uncorrected visual acuity of 6/6. His best corrected visual acuity after cycloplegic refraction was: BE - +0.75 spherical – 6/6
FUNDUS:
RE – Within normal limits

FUNDUS PICTURE RIGHT AND LEFT EYE

COLOUR VISION - Normal FIELDS by automated perimetry were normal Intraocular pressure –BE - 16 mm Hg (Goldmann applanation tonometry) Extraocular movements Full Full
WORK UP : FFA - No Disc leakage.

B SCAN :
RE – Normal.
LE – 1.5 mm sized hyperechoic lesion was present over the optic nerve head.

Hence a diagnosis of UNILATERAL BURIED OPTIC DISC DRUSEN was made based on B scan findings.

DISCUSSION:
Optic disc drusen are often asymptomatic and in majority of the patients they are diagnosed incidentally. Exposed drusen are easily picked up ophthalmoscopically but in some individuals, particularly children, drusen may not be visible on the optic disc surface but are instead buried deeper within the nerve tissue and the optic disc appears swollen. As the drusen enlarge and the overlying tissue (nerve fiber layer) thins with age, the disc drusen become more apparent. As most of the times they are bilateral, buried optic disc drusen often mimic papilledema, though rare the picture is further confused if the drusen is unilateral and deeply buried. In our case patient had unilateral buried optic disc drusen mimicking a clinical picture of unilateral disc edema. The presentation in this patient was sufficiently alarming and the patient being in paediatric age group was evaluated to rule out occult space occupying lesions. B-scan ultrasonography of the eye is a noninvasive technique and it should have been performed earlier in this patient.CT orbit was not able to pick up the drusen as it was not sufficiently calcified.Headache might have been due to stress and refractive error and disc edema due to optic disc drusen was a coincidental finding. Patients with optic disc drusen may still have coexisting neurological lesions, but it is not justifiable to subject such patients for multiple investigations until it is clear that the optic discs are truly swollen. Although unilateral optic disc edema caused by optic disc drusen is a rare condition it should be considered on differential diagnosis. This case of unilateral buried optic disc drusen is presented for its rarity and also to highlight the importance of diagnosing this benign cause of pseudopapilledema and the role of Bscan ultrasonography in diagnosing such lesions!

REFERENCES: