

Case Report**Optic Disc Drusen, Important Detail In The Differential Diagnosis Of Optic Disc Edema****Abstract**

Pseudopapilledema is used for pathologies that mimicking the optic disc edema. Among these, pseudopapilledema is commonly produced by optic disc drusen (ODD). A 17-year-old female patient was referred to the ophthalmology department from child neurology department with papilledema diagnosis because of bilateral elevated and blurred optic disc. Following ophthalmologic evaluation with fundus examination, B-scan ultrasound, red-free fundus photography with revealed autofluorescence the diagnosis of papilledema was excluded in case and optic disc drusen was diagnosed. Swelling of optic disk and blurs of the optic disk margins is not equal papilledema. It is important to kept up pseudopapilledema in differential diagnosis of papilledema.

Keywords: optic disc drusen, papilledema, pseudopapilledema, children, pediatric, diagnosis

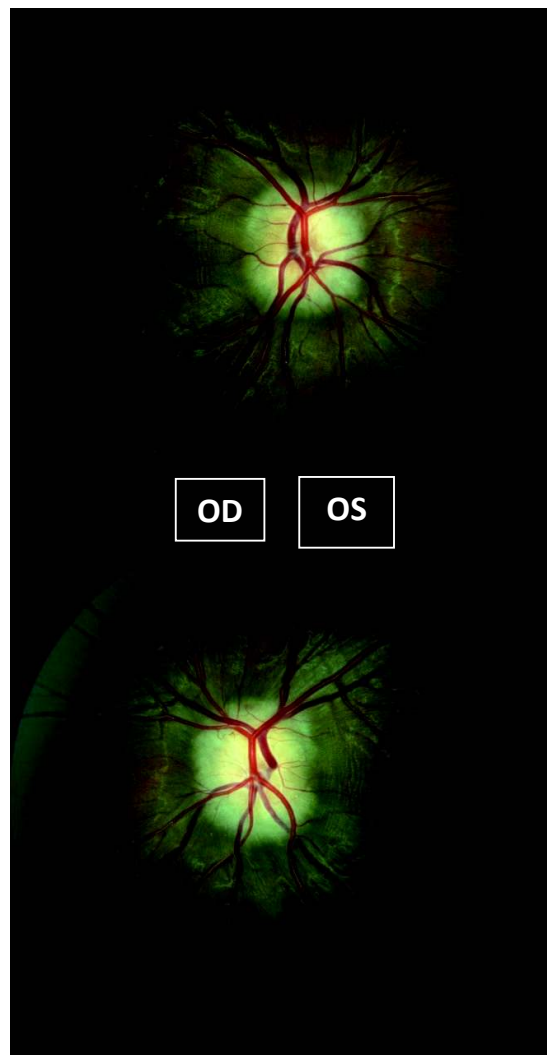
Introduction

Pseudopapilledema is used for pathologies that mimicking the optic disc edema. Among these, pseudopapilledema is commonly produced by optic disc drusen (ODD). ODD are globular, calcified hyaline bodies which contain mucoprotein and mucopolysaccharides, at the head of the optic nerve. ODD may result from abnormal axonal metabolism or may form secondarily from extracellular preliminary deposits. ODD usually don't produce any visual symptoms and detect incidentally. Myelinated nerve fibers, peripapillary glial tissue, tilted disc, compact disc due to hyperopia are other pathologies that should come to mind in diffential diagnosis. In this report, we report a case of the bilateral ODD in a 17-year-old female patient mimicking papilledema.

Case Report

A 17-year-old female patient was referred to the ophthalmology department from child neurology department with papilledema diagnosis because of bilateral elevated and blurred optic disc. During ophthalmological examination, corrected visual acuity was 20/20 OD and 20/20 OS. The patient was orthophoric with no restriction of extraocular motility. Anterior segment examination in both eyes was unremarkable and pupils were briskly reactive with no relative afferent papillary defect. Color vision tested by Ishihara isochromatic plates was 10/10 in both eyes. Bilateral optic disk elevation with blurred disk margins were observed on fundus examination (Figure-1). B-scan ultrasound revealed biletaral hiperechogenic lesions at the junction of the retina and optic nerve (Figure-2). Red-free photography revealed autofluorescence of the drusen without the administration of fluorescein (Figure-3). Retinal nerve fiber layer thickness were normal (Figure-4a,4b). The diagnosis of bilateral pseudopapilledma was made and the patient and the clinician in pediatric neurology department informed. Any therapy or interventional procedures not recommended.

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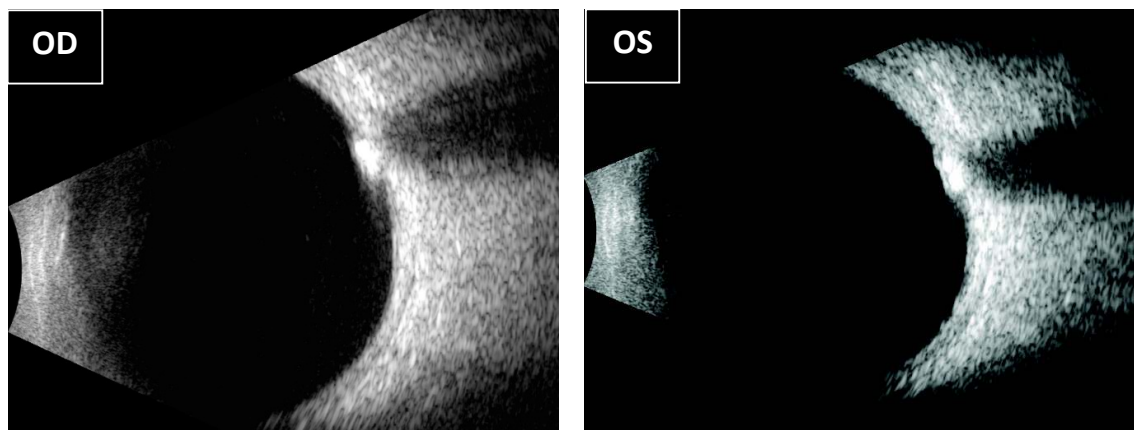


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46 Figure-1: Optic disc photos of a 17 year old girl with bilateral buried optic disc drusen. The
 47 disc margins are blurred, but there are no hemorrhages or exudates.

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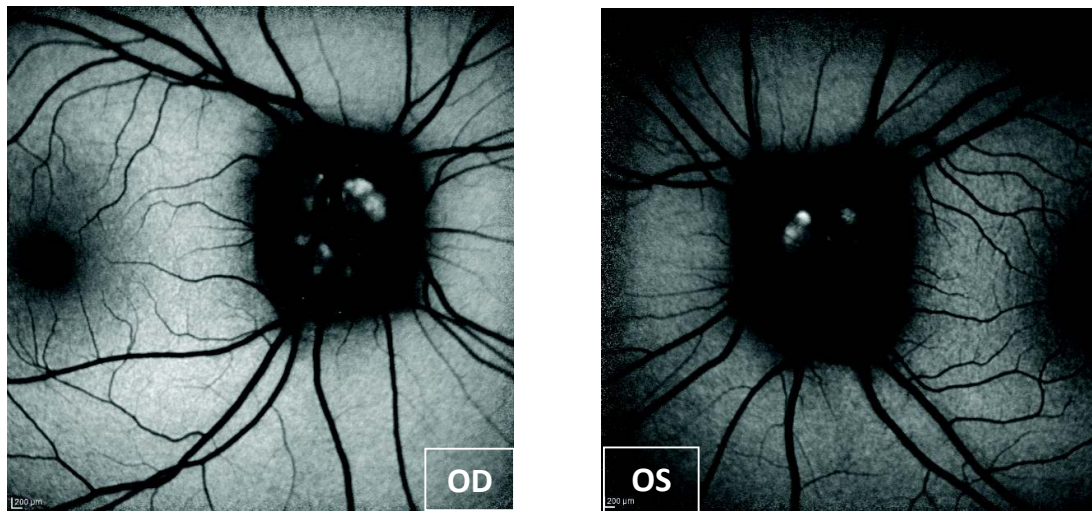


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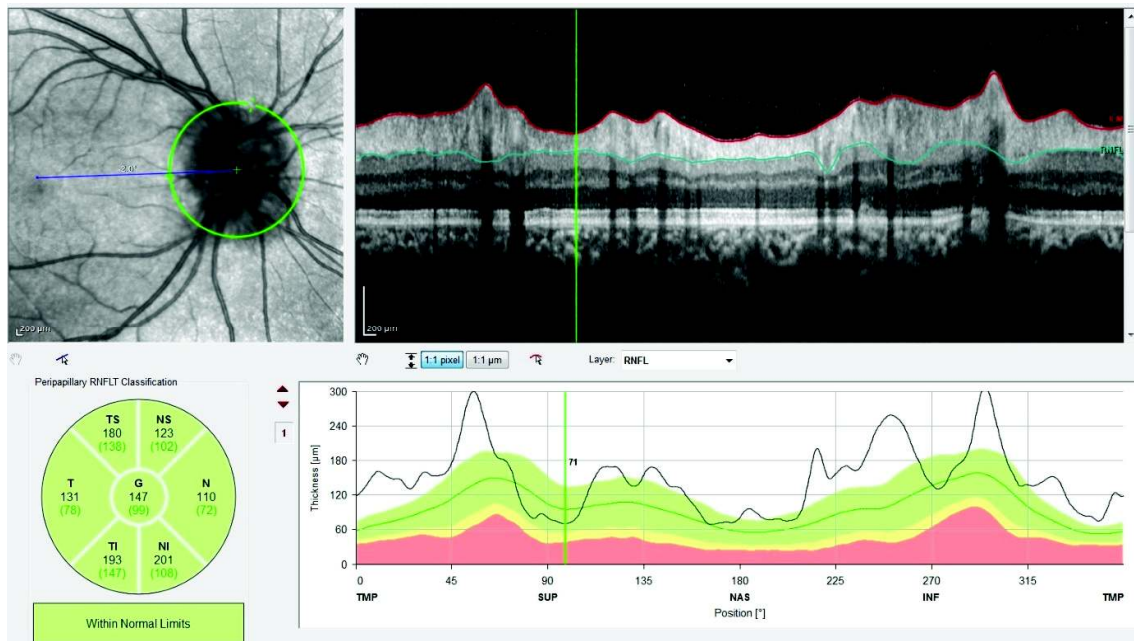
51 Figure-2: B-scan ultrasonography of case showing a hyperechoic region over the optic nerve
 52 head (OD and OS B-scan).

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Figure-3: The red-free fundus photographs of case; revealing autofluorescence of the optic discs.



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Figure-4a: OCT of right optic nerves showing elevated optic nerve heads and peripapillary RNFLT thinning

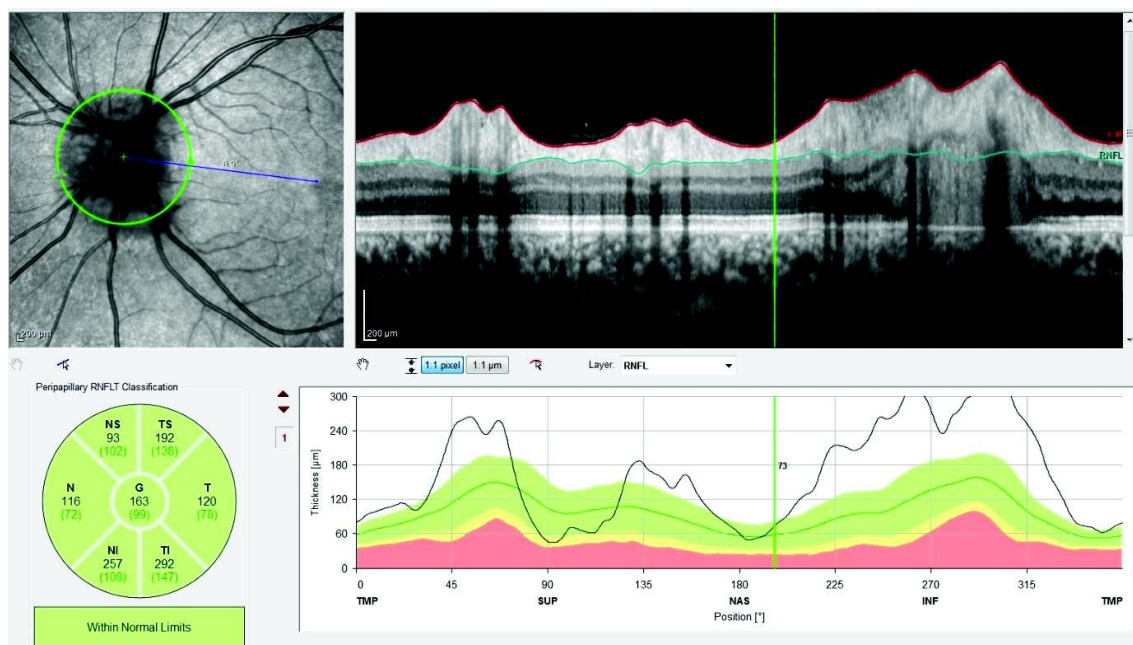


Figure-4b: OCT of left optic nerves showing elevated optic nerve heads and peripapillary RNFL thinning

Discussion

Optic disc drusen affects 2% of the population, however, those with a family history was found to be 3.4%. It is clinically apparent in only about 0.35% of individuals. Men and women are affected equally. Hereditary ODD development is associated with small scleral foramina and resistance of the normal axoplasmic flow (1-2).

Most patients of ODD are asymptomatic, however, episodic blurred vision can be seen in some patients, due to probably transient ischemia caused by compression effects and occur bilaterally. Thinning of the retinal nerve fiber layer thickness is often seen (2) Optic disc drusen can be superficial or buried. Buried optic disc drusen are often seen in younger patients and may become visible by moving forward over time (3). Small buried drusen may cause only elevation of the disc but especially superficial drusen may often seen white nodules. Especially in papilledema with buried drusen are particularly vulnerable to misdiagnosis and unnecessary initiatives such as lumbar puncture. B-scan ultrasound and red-free photography without the administration of fluorescein may be helpful in identifying ODD and to rule out true papilledema (4).

Visual field defects have been reported in 76% of eyes with visible drusen and in 46% of those without visible drusen but with the appearance of pseudopapilledema (5). Novel et al reported 32% inferior nasal, 21% nonspecific, 21% generalize constriction, 18% enlargement of the the blind spot visual field defects in 15 children with buried and superficial ODD (6). There is no established treatment for visual field defects related with ODD (2). Optic disc drusen may associated with retinitis pigmentosa, pseudoxanthoma elasticum, angioid streaks and Alagille syndrome (90% unilateral, 50% bilateral). (7-8). Juxtapapillary choroidal neovascularization, vitreous hemorrhage, vascular occlusions such as partial anterior ischemic optic neuropathy, rarely may occur with ODD (2).

Conclusion

Swelling of optic disk and blurs of the optic disk margins is not equal papilledema. It is important to kept up pseudopapilledema in differential diagnosis of papilledema. It is necessary to remind the pseudopapilledema reasons such as ODD which is not required treatment in the case of papilledema and It will avoid unnecessary invasive procedures

References

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