Case Report
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A Case of Choroidal Osteoma

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ABSTRACT

Choroidal osteoma is a rare benign ossifying tumor of the choroid, predominantly affecting healthy young females. This report presents a case of a 73-year-old female with no significant systemic or ocular history, except for prior cataract surgery. The patient presented with irritation and itching, and examination revealed a hypopigmented lesion inferior to the optic disc in the left eye, consistent with choroidal osteoma. Diagnosis was confirmed via fundus examination, B-scan ultrasonography, and OCT. The lesion displayed elevated retinal pigment epithelium but no subretinal fluid or membrane. Management included cataract surgery with guarded visual prognosis, and regular follow-up for potential choroidal neovascularization. The patient's visual acuity improved postoperatively. Choroidal osteoma typically results in vision loss through atrophy of the overlying retinal pigment epithelium or choroidal neovascularization. Treatment options for associated complications include photodynamic therapy and anti-VEGF agents. This case emphasizes the importance of monitoring for progressive changes in patients with choroidal osteoma.

Key words: choroidal; osteoma; Bharatpur.

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INTRODUCTION

Choroidal osteoma, first described at 1975 Meeting of Verhoeff Society as a benign ossifying tumor of unknown etiology, is characterized by a slightly irregular elevated yellow-white lesion that typically occurs in healthy females in their early twenties or thirties. [1]It occurs unilateral in approximately 80% of cases and is located in posterior pole. It is commonly juxtapapillary or peripapillary, but may extend to the macula. The etiology of tumor is unknown.[2] Factors implicated in its development, however include inflammation, trauma, hormonal state, calcium metabolism, environment and heredity. None of these factors appear to be either a sole, or an established, factor in causing patients to develop the condition. Its diagnosis is based on fundus fluorescein angiography (FFA) and B-scan ultrasound.[3]Associated complications include choroidal neovascularization and subretinal hemorrhage. To date, no associations have been reported with ocular or systemic disease, however some reports suggest link with Stargard's and polypoidal maculopathies.

CASE REPORT

A 73 years old female presented in OPD of BEH (Bharatpur Eye Hospital) with complain of irritation and itching. She has no previous history of use of glasses. She has no history of systemic illness and trauma and has undergone cataract surgery of RE on 2081/04/08.

At presentation, unaided visual acuity was 6/9 and 6/36'p' in RE and LE respectively. The pinhole visual acuity was 6/6'p' and 6/18'p' in RE and LE respectively. The best corrected visual acuity was 6/6' p', N6 in RE and 6/18'p', N12 in LE. Anterior segment examination with slit lamp biomicroscope showed normal pupillary response, clear cornea in BE, normal anterior chamber depth and PCIOL in RE and cataract of grade NS III in LE. Intraocular pressure measured by non-contact tonometer was 17 and 18 mm of Hg in RE and LE respectively. Fundus examination was carried out which revealed normal fundus with cup disc ratio of 0.3:1 in RE. Left eye fundus examination revealed 3-disc diameter size hypopigmented lesion without overlying vessels inferior to disc. A and B scan ultrasonography showed a high reflectively lesion with remarkable posterior shadowing. OCT of the left eye revealed an elevated retinal pigment epithelium inferior to disc with no sub

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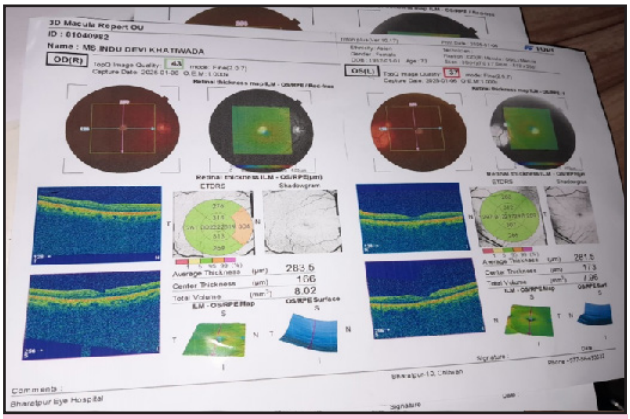

Figure 1. OCT of RE and LE shows normal macular thickness.

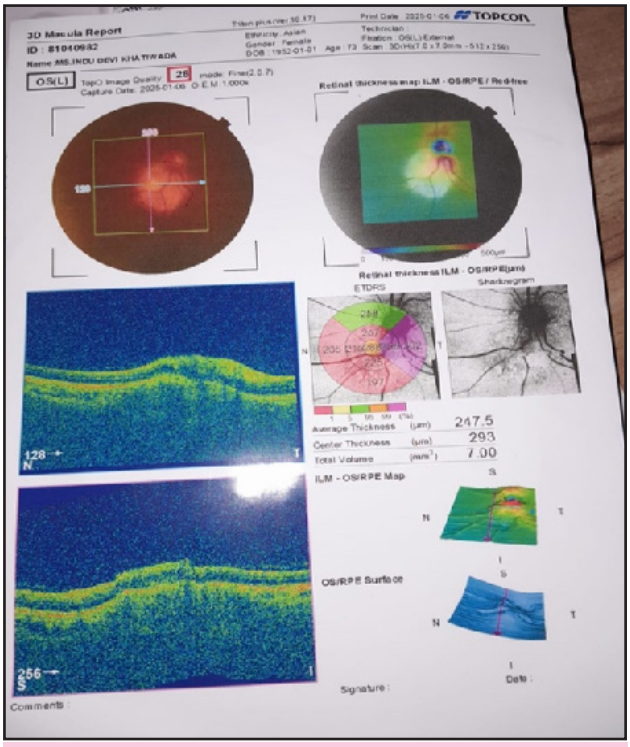

Figure 2. OCT of LE in the region of lesion shows elevated retinal pigment epithelium with no sub retinal fluid.

retinal fluid or membrane. A diagnosis of choroidal osteoma of left eye was established based on fundus examination, B scan and OCT. The diagnosis and its natural course were discussed with patient.

Management

Since, she had cataract in left eye which could be a one of the reasons of decreased vision. She was advised for LE PEA with FIOL under LA and guarded visual prognosis. This case was asymptomatic as she had no experience of metamorphopsia. Therefore, she was

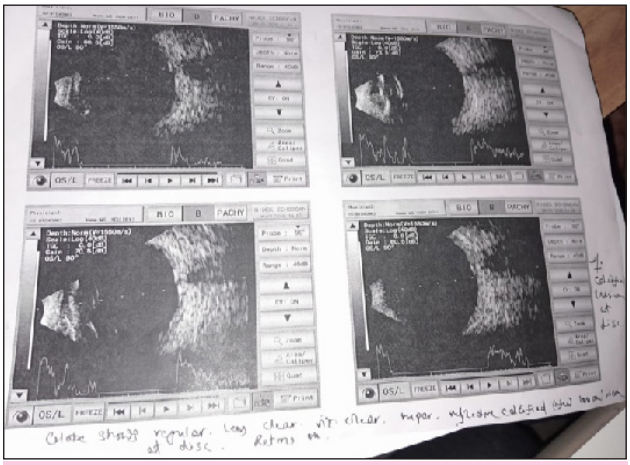

Figure 3. B scan shows calcification with posterior shadowing.

advised for routine follow up to look signs for choroidal neovascularization. Cataract surgery was performed in LE on 2082/09/24 as per the plan. On first follow up after the cataract surgery the vision improvement was seen which was 6/18 and 6/9 with pinhole.

DISCUSSION

Choroidal osteoma is a rare entity comprising only 4% of all choroidal mass lesion. It is typically seen in healthy, young asymptomatic women and generally lesion is found incidentally. Mean age at the time of diagnosis is 26 years. Choroidal osteoma was first described at the 1975 Meeting of Verhoeff Society. [4-8]The case was healthy 26 years old female who presented with paracentral scotoma and visual acuity of 6/6 in both eyes. It is rare to be found only in macula. It is yellow white to orange red in color with clumping of brown, orange, or gray pigment. The shape is commonly oval or round with well defined scalloped or geographic margins. Occasionally, decalcification can occur and is characterized by thin, atrophic yellow-gray regions with associated RPE atrophy. Decalcification can occur spontaneously or as a result of laser photocoagulation or photodynamic therapy (PDT). Choroidal neovascular membrane can also develop.[8-10]

Visual loss results from three mechanism; atrophy of retinal pigment epithelium overlying a decalcified osteoma, serous retinal detachment from decompensated retinal pigment epithelium, and most commonly from choroidal neovascularization.Tumor

growth occurred in 41-64% of cases followed for period of 3 years. Overall CNV occurred in 31-47% of cases with suggested association with decalcification due to disruption of RPE and Bruch membrane. [11-12] Shield hypothesized that this RPE layer disruption allows growth of underlying choroidal new vessels. Alternatively, Foster theorized that neovascular membrane are extension of osteoma itself. In support of his hypothesis osteoclasts were detected in a surgically removed neovascular membrane. For CVNM, surgical removal and PDT have been used in past as well as laser treatment. More recently, anti-VEGF treatments such as intravitreal ranibizumab and bevacizumab have been employed with success. It has been shown that margins of the choroidal osteoma that are decalcified have no tumor growth and display stabilization of tumor scar. Therefore, it has been proposed for calcified extrafoveal osteoma, to use PDT at the edges to decalcify the tumor and prevent its growth and foveal involvement.

CONCLUSIONS

Choroidal osteoma is a rare benign ossifying tumor characterized by mature cancellous bone involving the choroid. It is an often-unilateral condition that affects that juxtapapillary and macular areas of young females.

Conflict of Interest: None

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