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## Case Report

# Bilateral choroidal haemangioma in an otherwise normal middle aged female

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### ABSTRACT

Circumscribed choroidal hemangioma is a rare benign vascular tumor. It is of two types, circumscribed and diffuse. Circumscribed choroidal hemangioma is a well demarcated solitary lesion, usually situated posterior to equator, while diffuse have ill defined thickening of choroid involving more than one zone or quadrant. Patient may present with progressive diminution of vision, metamorphopsia, floaters and visual field defect. The visual symptoms are because of associated subretinal fluid, cystoid macular edema, and in long standing cases, retinal pigment epithelium changes, subretinal fibrosis and retinoschisis. It must be distinguished from amelanotic melanoma and choroidal metastasis. Investigation such as ultrasound, optic coherence tomography, fundus fluorescein angiography, indocyanin green angiography can be used to confirm the diagnosis. Multiple treatment options like transpupillary thermotherapy, photodynamic therapy, plaque brachytherapy and external beam radiotherapy.

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## 1. Introduction

Circumscribed choroidal hemangioma is a benign, vascular tumor which appear as orange-red usually solitary tumor situated at posterior pole. It must be distinguished from more ominous choroidal metastasis, amelanotic melanoma. This is a case report of a bilateral choroidal hemangioma in a normal middle-aged female. To our best of knowledge only four such cases are reported in literature.

## 2. Case History

A 44 year old female presented to out patient department with mild blurring of vision in right eye. Uncorrected vision of right eye was 6/24 and left eye was 6/6p. BCVA of right eye was 6/6 with +1.50 spherical and +0.50 cylindrical at 100 degrees, and for left eye was 6/6 with + 0.50 cylindrical at 45 degrees. IOP was 14mm and 16mmHg. On fundus examination right eye showed an solitary orange-

red elevated mass between disc and fovea with pigmentary changes in the retinal pigmented epithelial layer in macular region and left eye showed orange -red flat mass at posterior pole.(Figure 1)



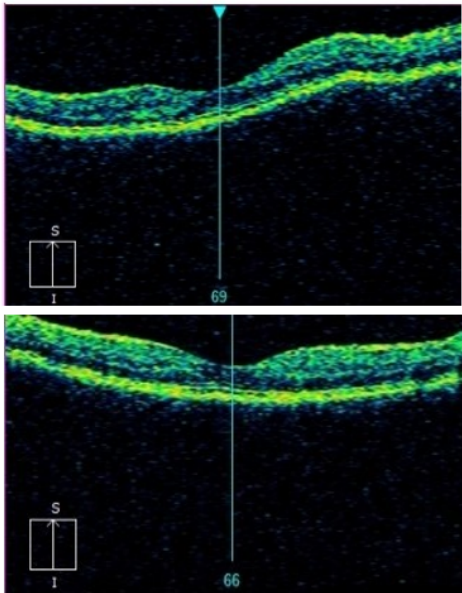
**Fig. 1:** Fundus photo of Right and Left eye

On OCT of right eye elevated RPE layer was seen while RPE was flat in left eye (Figure 2). Ultrasonography showed solid choroidal mass on B-scan with high internal reflectivity on A-Scan. Fundus fluorescein angiography

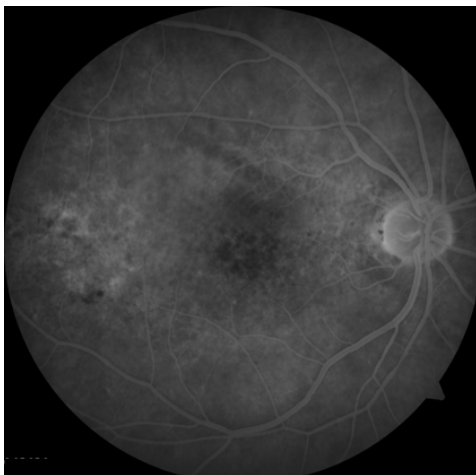
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showed mild early lacy hyperfluorescence in early arterial and mid arterial phase that increases through all stages.(Figure 3). ICGA shows early filling and hyper fluorescence in early phase and washout phenomenon in late phase.



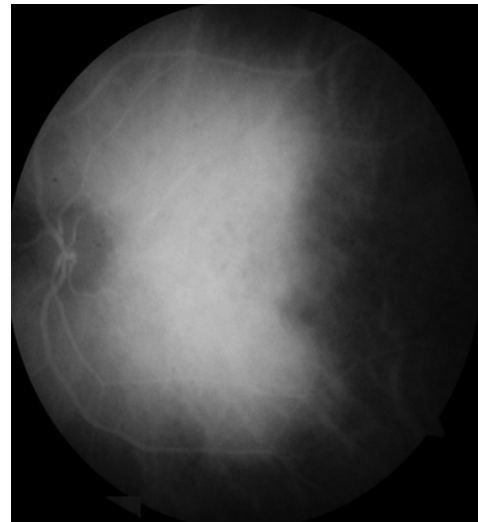
**Fig. 2:** CT Macula of Right and left eye



**Fig. 3:** Fundus fluoresce in angiography of Right eye

### 3. Discussion

Choroidal hemangioma is an uncommon benign vascular tumour of the choroid. It is of two types circumscribed or diffuse. Circumscribed are usually well demarcated and solitary, located posterior to equator, while diffuse has ill defined margin situated in more than one zone (macula, macula to equator, equator to ora or quadrant.<sup>1</sup>



**Fig. 4:** CGA of left eye

Circumscribed type is generally sporadic while diffuse generally present as a part of neuro-oculo-cutaneous hemangiomatosis.<sup>2</sup> Circumscribed choroidal hemangioma is usually diagnosed between second to fourth decade of life.<sup>2</sup> The hemangioma itself is not pigmented but overlying pigmentation can occur over time. Bilateral choroidal hemangioma is generally found in patients with Sturge-Weber syndrome.

Most commonly asymptomatic but can present with blurred vision, loss in visual field, metamorphopsia, floaters, flashes of light. Symptoms may be due subretinal fluid accumulation.it may be due to secondary breakdown of the blood retinal barrier.<sup>3</sup> Signs include an orange –red dome shaped lesion with indistinct borders, dilated episcleral vessels, neovascularization of the iris, drusen, RPE hyperplasia, dilated retinal arteries and veins, retinoschisis.<sup>3</sup> On B Scan ultrasonography, a hemangioma appear as a smooth contoured ,dome shaped, choroidal mass, which demonstrates high internal reflectivity on A- scan.<sup>2</sup> On fluorescein angiography, the hemangioma appears as a hyperfluorescent mass with a fine lacy network of intrinsic vessels in the choroidal filling phase of the angiogram.<sup>3</sup> The hyperfluorescence increases through most phase of the angiogram with a variable amount of late leakage. On ICG, within 30 seconds of ICG dye injection, the intrinsic tumor vascular pattern is visualized. There is rapid progression of hyperfluorescence, peaks around 3 to 4 minutes. A”washout” effect in the late phase is observed due to egress of dye from the hemangioma.<sup>4</sup>

Circumscribed choroidal hemangioma is mainly asymptomatic hence only observation and follow up is required in most cases. Traditional treatment for CCH was xenon arc photocoagulation.it produced good resolution without residual scarring that can cause good visual recovery.<sup>5</sup> Argon laser is also used but it causes scarring

of retina and choroid and recurrence of underlying sub retinal fluid. Another treatment option is transpupillary thermotherapy where a diode laser is used to treat the lesion. This laser penetrate deeper and causes less damage to surrounding retina. TTT is usually reserved for lesion less than 10mm in diameter, less than 4mm in thickness, and more than 3mm from the foveola.<sup>5</sup> Radiation therapy can also be used to treat CCH. Three most common types of radiation therapy include episcleral plaque radiotherapy, external beam irradiation, and proton beam irradiation.<sup>6</sup> It is used to treat large extensive retinal detachment. PDT has been shown to be safe and effective treatment for CCH. PDT uses a photochemical to selectively occlude vascular channels in the CCH.<sup>7</sup> Intravitreal injection of anti-VEGF has been used to treat macular edema secondary to the CCH.

#### 4. Conclusion

Circumscribed choroidal hemangioma is a rare retinal finding but it should be distinguished from other similar retinal tumors. Ancillary test like ultrasonography, FA, ICGA, MRI AND OCT should be used for the diagnosis.

Despite its status as a benign tumor, CCH can lead to profound vision loss in about half of all cases secondary to macular edema.<sup>8</sup>

Earlier the treatment is implemented, better is the visual outcome.<sup>9</sup>

#### 5. Conflict of Interest

Author has no conflict of interest to declare.

#### 6. Source of Funding

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