Treatment of Retinal Detachment Secondary to Circumscribed Choroidal Hemangioma with Transpupillary Thermotherapy – Case Report

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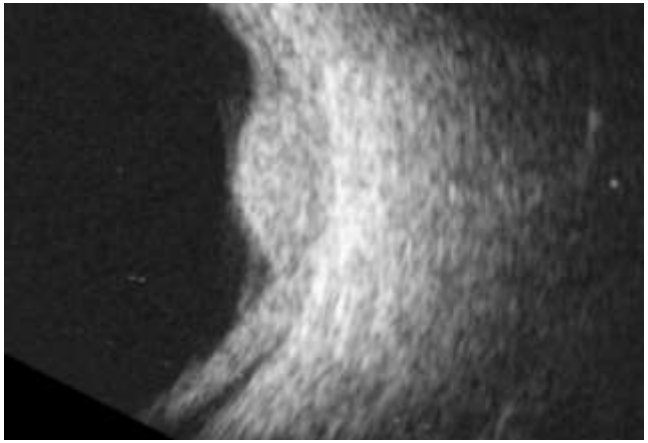
PURPOSE: This work aims to report a case of a patient diagnosed with circumscribed choroidal hemangioma and secondary retinal detachment treated with transpupillary thermotherapy, showing a good response after 1 month of treatment.

METHODS: Review of the patient's medical record.

CASE REPORT: A 45-year-old female patient with a history of progressive visual acuity loss in the right eye for one month was examined. Ocular examination revealed visual acuity with best correction of 20/100 and 20/20 in the right and left eyes, respectively. Fundoscopy of the right eye showed a well-circumscribed, round, reddish-orange choroidal mass, located in the upper temporal region with macular involvement and the presence of a serous retinal detachment involving the macula (Figure 1).

(Figure 1)

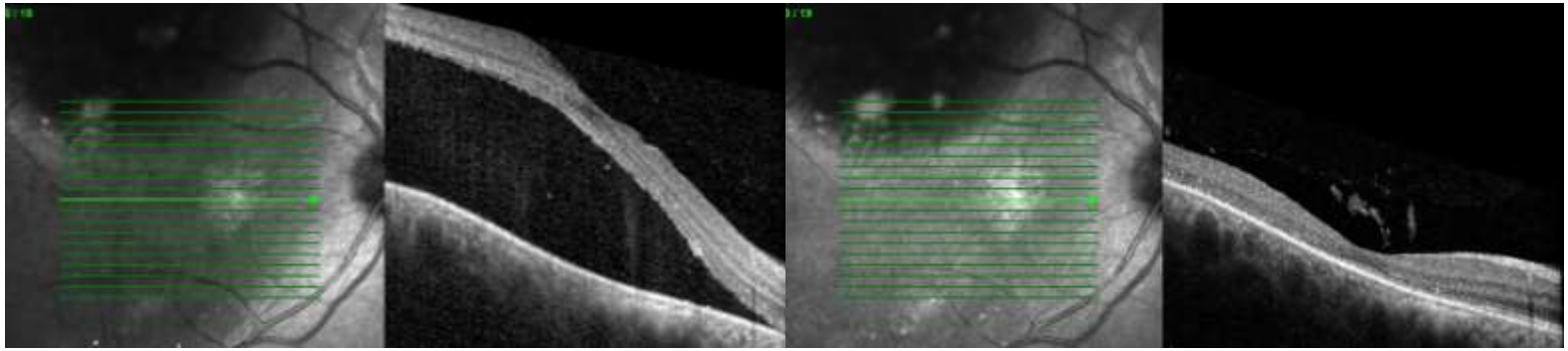


(Figure 2)

B-scan ultrasonography revealed a serous retinal detachment associated with a solid mass approximately 4mm thick and high internal reflectivity, consistent with the diagnosis of circumscribed choroidal hemangioma (Figure 2).

The lesion was initially treated with intravitreal injections of antiangiogenic agents and metoprolol, resulting in partial improvement of macular serous retinal detachment. After 4 weeks from the last injection, there was worsening of macular serous detachment with hand motion visual acuity in the left eye. Therefore, treatment with infrared diode laser (transpupillary thermotherapy) was indicated, associated with intravenous indocyanine green dye. Laser treatment was applied to the lesion while sparing the area involving the macula.

RESULTS: One month after transpupillary thermotherapy treatment of circumscribed choroidal hemangioma with secondary retinal detachment, total absorption of subretinal fluid (Figure 3) and significant improvement in visual acuity (20/30) were observed.



(Figure 3) – OCT BEFORE AND AFTER TREATMENT

DISCUSSION: Choroidal hemangioma is a relatively rare benign hamartoma characterized by anormal growth of choroidal vessels. It can occur as a circumscribed tumor without extraocular associations or diffusely associated with facial nevus flammeus or variations of Sturge-Weber syndrome[1]. The association of choroidal hemangioma with retinal detachment represents an important cause of visual acuity reduction and a therapeutic challenge[2].

Treatment is reserved for symptomatic forms related to the occurrence of complications and macular exudates[3]. Therapeutic options include argon laser, brachytherapy, intravitreal injections, and transpupillary thermotherapy (TTT)[4]. TTT is a treatment modality that uses a modified diode laser with a wavelength of 810 nm to produce localized and uniform heating with subsequent obliteration of malformed vessels and reduction in tumor size. Transpupillary thermotherapy has become a widely used technique for lesions involving the macula, based on the principle that the diode laser is absorbed more deeply by the choroid, sparing the pigment epithelium[5].

In the presented case, local treatment was initially attempted with intravitreal injection of anti-VEGF and metoprolol without significant improvement and was maintained. Therefore, treatment with TTT associated with intravenous indocyanine green dye was proposed, and after 30 days of the procedure, the patient showed complete resolution of serous detachment, absence of subfoveal edema, and significant improvement in visual acuity. Functional and anatomical outcomes have been favorable with TTT treatment, offering a minimally invasive yet effective way to treat intraocular hemangiomas.

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