

CIRCUMSCRIBED CHOROIDAL HEMANGIOMA COMPARISON OF OUTCOMES BY TREATMENT WITH LASER PHOTOCOAGULATION OR TRANSPUPILLARY THERMOTHERAPY

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Purpose: To compare the visual and anatomical results of cases of circumscribed choroidal hemangiomas after treated by laser photocoagulation or transpupillary thermotherapy (TTT).

Method: A retrospective review was performed on patients with circumscribed choroidal hemangiomas treated by photocoagulation or TTT between January 1995 and June 2004. Patients' age, gender, length of follow-up, visual symptoms, visual acuity at presentation and follow-up, tumor location, and the status of subretinal fluid were recorded. Stationary visual acuity was defined as changes of visual acuity within two lines on the Snellen chart before and after the treatment. Poor vision was defined as visual acuity less than 0.1.

Results: Fourteen eyes of 14 patients with symptomatic circumscribed choroidal hemangioma were included. The average age was 43 years old and they were followed for a mean of 15.4 months. Seven of the 14 patients had foveal involvement of the tumor or associated subretinal fluid. Seven patients received photocoagulation and 7 received TTT as the primary treatment. Of the 7 patients treated by laser photocoagulation, two (28%) had post treatment visual acuity better than that at presentation. None improved more than two Snellen lines of visual acuity. Complete resolution of subretinal fluid was noted in five patients (71%). Of the 7 patients treated by TTT, three (42%) had post treatment visual acuity better than that at presentation. None improved more than 2 lines of visual acuity. Five patients (71%) showed complete resolution of subretinal fluid. All of the 14 patients preserved a stationary visual acuity (within two Snellens' line). Seven of the 14 patients had final visual acuity less than 0.1.

Conclusion: Photocoagulation and TTT showed similar effect on visual pro-

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gnosis and subretinal fluid resolution in our case series. Poor post treatment visual acuity was related with tumor or subretinal fluid involving the fovea and poor initial visual acuity. Fifty percent of patients had visual acuity less than 0.1 though the rate of complete subretinal fluid absorption was as high as 71%.

Key words: choroidal hemangioma, photocoagulation, transpupillary thermotherapy.

INTRODUCTION

Choroidal hemangioma is a benign, vascular hamartoma. It can be classified in two types, circumscribed or diffuse based on the extent of choroidal involvement.¹ The latter is often associated with Sturge-Weber syndrome. Treatment for choroidal hemangioma is indicated when the tumor causes visual loss or threatening the vision, extensive retinal detachment and associated glaucoma. Treatment methods include cryotherapy, photocoagulation, radiation with either proton beam, external beam, or plaque radiotherapy, transpupillary thermal therapy (TTT) and photodynamic therapy.²

In this study, we retrospectively reviewed 14 cases of circumscribed choroidal hemangioma. In addition to reviewing the clinical manifestations of circumscribed choroidal hemangioma, the main goal was to understand more about the visual and anatomical results after being treated by laser photocoagulation or TTT in our institute.

PATIENTS AND METHODS

Patient selection and analysis

The clinical records of patients with circumscribed choroidal hemangioma seen in National Taiwan University Hospital between January 1995 and June 2004 were reviewed. The following data were collected for analysis: treatment types, age, sex, length of follow-up, visual symptoms, visual acuity at presentation and follow-up, tumor location, and status of subretinal fluid. The tumors were divided into three groups according to their location. Tumors involving the fovea were defined as group A, involving the disc as group B, tumors located

elsewhere as group C. Stationary visual acuity was defined as changes of visual acuity within two lines on the Snellens chart before and after the treatment. Poor vision was defined as visual acuity less than 0.1.

The diagnosis was based on ophthalmoscopy, fluorescein angiography, indocyanine green and ultrasonography. Exclusion criteria were equivocal diagnosis, cases received no treatment, or follow-up less than 1 month from the treatment. As the patients received more than one type of treatment, only the data before the second type of treatment was included.

Treatment procedure

Methods used to treat patients with choroidal hemangioma were photocoagulation with diode laser, or TTT. Laser photocoagulation was performed by applying 600 to 1500 mW, 1-2 seconds, 200 mm diameter burns over the surface of the tumor, with diode laser, and some of them were performed with assisted indocyanine green stain. TTT was performed by applying 450 to 600mW, 60 second, overlapping 3mm diameter burns over the tumor surface.

RESULTS

Baseline Patient Features

We collected 17 eyes in 17 cases of circumscribed choroidal hemangioma, no association systemic syndrome was noted. Two cases were excluded because no treatment was applied. The other patient was excluded because he was treated by photocoagulation first but received transpupillary thermotherapy later within one month. Fourteen cases were included in this study, the age ranges from 24 to 59 years old, with mean of 43