Abstract 301

INDOCYANINE GREEN ENHANCED TRANSPUPILLARY THERMOTHERAPY FOR TREATMENT OF CIRCUMSCRIBED CHOROIDAL HEMANGIOMA

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Choroidal hemangioma, though histologically benign, requires prompt and effective treatment to preserve vision due to its clinical behavior. Transpupillary thermotherapy (TTT), a type of infrared diode laser hyperthermia, has become a valuable treatment option in managing CCH. However, concerns remain about limitations such as incomplete fluid resolution, recurrence, and foveal damage in poorly selected cases. Indocyanine green (ICG) is a chromophore with an absorption peak at 805nm, which aligns with the diode laser emission at 810 nm. These matching peaks theoretically enable TTT to produce a stronger response in ICG-enhanced tumors. This study examines and assesses tumour response, visual acuity, and subretinal fluid resorption (SRF) with and without ICG-enhanced TTT in CCH.

Fifteen CCH patients were treated with and without ICG-enhanced TTT in each group. We noted baseline visual acuity, tumour dimensions on B-scan ultrasound, SRF height on SSOCT, and tumour characteristics via ultra-widefield fundus photography. TTT was delivered using an 810nm diode laser through an indirect ophthalmoscope according to a standard protocol. Patients were followed monthly for three months, and responses were compared between the two groups.

SRF resorption was noted in all 15 patients treated with ICG-enhanced TTT and in 13 patients who received TTT alone. There was a significant improvement in VA in the ICG enhanced TTT group (logMar 1.02 □ 0.55 to 0.646□ 0.49) compared to the TTT alone group (logMar 0.85 □ 0.59 to 0.66 □ 0.55) (p-value: 0.04). A notable decrease in axial thickness (AT) and largest basal diameter (LBD) was observed in both groups. The mean average power used was significantly lower in the ICG TTT group compared to the TTT alone group (419mW vs 516mW). No statistically significant difference was found in the number of laser sessions between the two groups.

ICG-enhanced TTT is an effective treatment modality for CCH. It leads to greater visual improvement than TTT alone, requiring significantly less power for treatment success.

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