metal on imaging, may simulate an intraocular foreign body. Differentiating the Ex-PRESS shunt from an intraocular foreign body may allow for better counseling the patient for surgery and aid in planning the surgical repair.

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Financial Disclosure: None.

3. Wamsley S, Moster MR, Rai S, Alvim H, Fontanarosa J, Steinmann WC. Optonol EX-PRESS thermotherapy, and after 1 year of follow-up, attained by less than 3 lines in either direction.

Large Spot Transpupillary Thermotherapy for Occult Choroidal Neovascularization

Reichel et al1 reported the visual results of 16 eyes of 15 patients treated with transpupillary thermotherapy (TTT) with spot sizes of 1.2 mm to 3 mm, and found that 75% of patients had either stabilization or improvement of acuity over a mean follow-up of 13 months. Most patients with occult choroidal neovascularization (CNV), however, have lesions larger than 3 mm, which is the largest size lesion that can be treated using delivery systems with unitary magnification. Thach et al3 used a lens capable of nearly doubling the treatment spot size for transpupillary thermotherapy, and after 1 year of follow-up, attained by less than half of their patients, most had stable or improved acuity. We examined data from a series of patients with occult subfoveal CNV ranging from greater than 3 mm to less than 4.5 mm in size using a lens providing treatment spot size magnification × 1.5. Our results do not mirror those of Thach et al.3

Methods. The patients examined in this study had occult subfoveal CNV as demonstrated during fluorescein angiography, a lesion size greater than 3000 µm but less than 4500 µm, 20/40 or less Snellen equivalent of the Early Treatment Diabetic Retinopathy Study visual acuity, and a history of declining visual acuity. Patients could not have blood represent more than 25% of the total lesion; concurrent eye disease associated with decreased acuity; a serous pigment epithelial detachment; or use any anticoagulant medications. After giving informed written consent, they were treated with an 810-nm diode laser (IRIS Medical OcuLight light; Iridex Corp, Mountain View, Calif) using a power of 800 mW for 90 seconds using a lens providing a spot size magnification × 1.5. This provided a uniform spot size of 4500 µm. The patients were reexamined 2 to 3 months after their first treatment and re-treated using the same parameters if they showed signs of continued leakage during fluorescein angiography. All 45 patients in this study were treated over a 10-month period and had at least a 3-month follow-up. Six patients developed predominantly classic CNV during the follow-up period and were treated with photodynamic therapy using verteporfin (Visudyne; Novartis Pharmaceutical Corp, East Hanover, NJ). The acuity results of the patients treated with photodynamic therapy were included in the final data set in an intent-to-treat basis. Of the 45 patients in this study, 10 returned to their referring physicians and no additional follow-up was available.

Patients were considered to have a moderate visual acuity loss or improvement if they had a 3-line or more decrease or improvement, respectively, in their Early Treatment Diabetic Retinopathy Study acuity. A patient experiencing a change of less than 3 lines in either direction was considered to be stable. The baseline characteristics and change in visual acuity was evaluated with categorical and descriptive statistics. Pearson correlation coefficients were calculated to examine the relationships among baseline variables and visual acuity change (SPSS statistical software, version 11.01; SPSS Inc, Chicago, Ill).

Results. Of the 45 patients initially treated, 35 (77.8%) were available for follow-up and were composed of a group of 12 men (34.3%) and 23 women (65.7%). The patients had a mean age (SD) of 77.9 (7.3) years. A total of 18 patients (51.4%) required retreatment. No patient had a complication from treatment. The follow-up ranged from 3 to 21 months. At the end of the mean follow-up of 13.5 months, visual acuity had improved in 4 patients (11.4%), remained stable in 10 (28.6%), and decreased in 21 (60%) (Figure 1). The mean change in acuity was a loss of 3.8 lines (Figure 2). The mean change in acuity was not correlated with sex (P=.2); age (P=.4); the presence of subfoveal blood (P=.33) or subreti-
nal lipid ($P = .076$) at baseline; the need for retreatment ($P = .36$); or the need for subsequent photodynamic therapy with verteporfin ($P = .89$); but was correlated with the initial acuity (Spearman $p = -.38$, $P = .02$) such that those with better initial acuity lost more acuity over the follow-up period. Ten eyes (28.6%) suffered 6 or more lines of visual acuity loss.

Comment. This study retrospectively examined 35 patients treated with TTT using an 810-nm diode laser with a power of 800 mW for 90 seconds and a 4500-µm spot size for occult CNV ranging in size from 3000 µm to 4500 µm in diameter. After a mean follow-up period of 13.5 months, most patients (60%) experienced a moderate visual acuity loss. A lens providing $\times 1.5$ magnification of the spot size was employed, which supplied a maximum spot size of 4500 µm given the 3000-µm maximum beam size. The patients were treated with 800 mW for 90 seconds, which was a lower power density but a longer exposure time than some of the other patients treated in a previous study employing smaller spot sizes.1 A subsequent study by Mainster et al3 detailing a mathematical analysis of TTT suggested that the laser power should be increased linearly with the spot size, which calculates to 1200 mW given over a period of 60 seconds for the larger spot size used in this study to theoretically match that given by Reichel et al1 using a 3-mm spot size. The power density for the spot size used in the study by Thach et al2 for large lesions was not only less than this suggested amount, it was slightly less, proportionately, than what we used in our patients. The exact power density and duration of the laser exposure for TTT and the incidence of any possible long-term toxicity has not been established through any published studies and is not calculable mathematically with currently available data. The reasons for differences in apparent outcomes for our series and that reported by Thach et al are not known, but likely explanations are that there may have been differences in patients treated; both were small studies with incomplete follow-up and there were no control groups.

The randomized trial currently under way evaluating TTT for CNV is evaluating a maximum lesion size of 3 mm, which is relatively small. As the results from a randomized trial of photodynamic therapy using verteporfin show, possible treatment benefit for small occult lesions is not predictive of efficacy in larger lesions.3 In that study, 45% of patients treated with verteporfin compared with 72% of placebo patients with lesions less than or equal to 4 disc areas experienced moderate visual loss after 2 years of follow-up. On the other hand, 65% of both the treatment and placebo groups with occult lesions greater than 4 disc areas experienced moderate visual loss.3 Large-spot TTT with the power levels and exposure times used in the present study did not appear to be effective for subfoveal occult choroidal neovascularization. Large-spot TTT should be evaluated by a dose-ranging randomized trial before introduction into our treatment armamentarium.

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Financial Disclosure: Dr Slakter is a consultant for Alcon Laboratories Inc (Fort Worth, Tex), and Dr Yannuzzi is on the Scientific Advisory Panel for Eyetech Pharmaceuticals Inc (New York, NY).


Vision Loss Due to Macular Edema Induced by Rosiglitazone Treatment of Diabetes Mellitus

Rosiglitazone is in the thiazolidinedione class of insulin-sensitizing agents used for the treatment of type 2 diabetes mellitus. Thiazolidinediones have been reported to cause or exacerbate ven-