

SMD Therapy Effective for CSC

Subthreshold diode micropulse (SDM) laser may be more effective than standard therapy for patients with chronic central serous chorioretinopathy (CSC), according to Joan Giralt, MD. While still preliminary, data from a new study—authored by Dr. Giralt—has found that SDM is more effective, less expensive, and safer than low-fluence photodynamic therapy (PDT). It also has the therapeutic benefits of PDT without the iatrogenic damage.

PDT is thus far the only treatment in patients with chronic CSC that is very close to the fovea, said Dr. Giralt, Department of Ophthalmology, Hospital Clinic de Barcelona, Universidad de Barcelona, Spain.

“If it is away from the fovea, then it can be treated with the traditional laser,” he said. “PDT can damage the retinal epithelium.”

CSC is characterized by leakage of fluid in the center of the retina, which, in turn, can lead to a blister or serous detachment in the macula. The result could be vision distortions and decreased visual acuity.

In the majority of acute cases, resolution is spontaneous. However, visual symptoms may persist despite resolution. For a small number of patients, it will develop into chronic CSC—which is arbitrarily defined by the presence of subretinal fluid for period that exceeds 3 months. Chronic CSC can lead to significant visual impairment, and treatment options include: laser photocoagulation, photodynamic therapy (PDT), anti-vascular endothelial growth factor treatment, acetazolamide, and finasteride.

Traditional laser therapy carries a risk of residual vision defects due to laser-induced scarring. PDT with verteporfin has been shown to be effective in chronic CSC by improving visual acuity and reducing subretinal fluid. Complications—such as secondary choroidal neovascularization, persistent choriocapillaris hypoperfusion, and pigmentary retinal pigment epithelium—changes in the areas treated have been reported, however.

Examining the study

For this study, Dr. Giralt and colleagues conducted a retrospective, comparative, interventional case series analysis of 36 eyes of 36 patients with chronic CSC.

None of the participants experienced a spontaneous resolution of neuroepithelial serous detachment, which was confirmed by optical coherence tomography (OCT) and fluorescein. All patients included in the study had experienced the onset of their condition more than 6 months ago, and all underwent either SDM or PDT. Best-corrected visual acuity (BCVA) and OCT were evaluated before beginning treatment and during the clinic follow-up.

All of the patients in the SDM group received photocoagulation treatment that was performed with 810-nm infrared dioxide laser. For patients receiving PDT, verteporfin with half-fluence at a rate of 25J/cm², and an intensity of 300mW/cm² was delivered for 83 seconds to the area of choroidal hyperperfusion.

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The authors evaluated 20 eyes in the SDM group and 16 eyes in the PDT group, and found that all of the patients had an anatomical and functional improvement after their treatment, except for two patients who had undergone PDT.

Among patients in the SDM group, the average improvement of BCVA was 0.39 ± 0.22 with central foveal thickness decrease of $210.1 \pm 77.6 \mu\text{m}$. The re-treatment rate in this group was 0.45, and the clinical follow-up was 13.5 ± 6 months.

In the PDT group, the average improvement of BCVA was 0.20 ± 0.30 , and the central foveal thickness decrease was $102 \pm 76 \mu\text{m}$. The re-treatment rate was 0.19, and the clinical follow-up period was 20.4 ± 14.2 months.

“There were no complications with the SMD treatment and the results were better,” Dr. Giralt said. “SMD is available and should be considered for this complication.”

Preliminary results show that SDM is the better option for this indication, Dr. Giralt said.

Treatments for chronic CSC are still evolving, however, and more research is needed to identify the optimal treatment.

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