Central Serous Chorioretinopathy Treatment & Management

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Updated: Sep 10, 2015

Medical Care

Efficacy of tranquilizers or beta-blockers is unknown. Furthermore, an evaluation of 230 consecutive patients with central serous chorioretinopathy (CSCR) found that use of psychopharmacologic agents (eg, anxiolytics, antidepressants) was a risk factor for CSCR. Use of corticosteroids in the treatment of CSCR should be avoided because it may result in exacerbation of serous detachments already present.

Tatham and Macfarlane described a case series of patients who were treated with propranolol for CSCR.[38] They suggested that beta-blockade had a hypothetical mechanism in treating CSCR. Further evidence is needed to substantiate this potential treatment.

Nielsen et al proposed the use of mifepristone in the treatment of chronic CSCR in a case report.[39]

Forooghian et al evaluated the safety and efficacy of finasteride, an inhibitor of dihydrotestosterone synthesis, in 5 patients for chronic CSCR. Macular thickness and subretinal fluid decreased while treated and recurred immediately upon planned cessation of the medication.[40]

Steinle et al reported a single patient successfully treated with oral rifampin after having chronic subretinal fluid for more than 2 years' duration. The fluid resorbed after 1 month of rifampin therapy.[41] Shulman et al conducted a prospective pilot study on 12 patients with chronic CSCR and concluded that oral rifampin may be a treatment option in patients with longstanding chronic CSCR.[42] However, a case of rifampin-induced hepatotoxicity has also been reported during treatment of CSCR.[43]

Kurup et al reported a retrospective series of 9 patients who were treated with low-dose oral methotrexate without any apparent complications and resolution of subretinal fluid.[44]

Chin et al reported a series of 120 patients who had some response to mineralocorticoid antagonists, eplerenone or spironolactone. They specifically evaluated patients with recalcitrant disease and found a positive effect in half of the patients treated.[45] Other authors have also demonstrated the potential for mineralocorticoid antagonists in the treatment of CSCR.[46, 47]

Intravitreal bevacizumab (Avastin) has been used to successfully treat the rare complication of choroidal neovascularization following CSCR.[48, 49, 50]

Anti-VEGF agents such as bevacizumab and ranibizumab are also being used to treat the neurosensory detachment of CSCR in the absence of choroidal neovascularization. Bae et al conducted a prospective randomized study comparing intravitreal ranibizumab to low-fluence photodynamic therapy in chronic CSCR. At 6 months, they concluded that the anatomic outcomes with ranibizumab injections were "not promising" compared with low-fluence photodynamic therapy.[51] . Semeraro et al compared intravitreal bevacizumab to low-fluence photodynamic therapy for treatment of chronic CSCR. The series was limited to 22 patients total and no statistical significant difference could be identified.[52]

Surgical Care

Laser photocoagulation should be considered under the following circumstances: (1) persistence of a serous retinal detachment for more than 4 months, (2) recurrence in an eye with visual deficit from previous CSCR, (3) presence of visual deficits in opposite eye from previous episodes of CSCR, and (4) occupational or other patient need requiring prompt recovery of vision.

Laser treatment also may be considered in patients with recurrent episodes of serous detachment with a leak located more than 300 µm from the center of the fovea.[53, 54]

Laser treatment shortens the course of the disease and decreases the risk of recurrence for CSCR, but it does not appear to improve the final visual prognosis.[55, 56]

Some evidence suggests that patients with chronic CSCR (diffuse retinal pigment epitheliopathy) may have better prognosis with laser treatment.

Photodynamic therapy (PDT) has growing support in the literature as a treatment of chronic CSCR and, most recently, acute phases of this condition. PDT is known to have a direct effect on the choroidal circulation but was limited by potential adverse effects, such as macular ischemia. Authors, such as Lai et al, are now describing reduced dosing of verteporfin, while the use of reduced fluence has been shown to be therapeutically effective in age-related macular degeneration. The rates of adverse events have decreased significantly with these modifications.[57, 35]

Use of verteporfin and PDT was first reported in 2003 in the setting of CSCR.[58]

Yannuzzi et al described using ICG angiography to first identify areas of choroidal hyperpermeability that were then targeted with PDT.[58]

Subsequent studies, using PDT protocols established by the Treatment of Age-Related Macular Degeneration With Photodynamic Therapy (TAP) Study, have reported case series that support the use of PDT, especially in the setting of chronic CSCR with neurosensory detachments.

PDT is believed to hasten both fluid resorption and visual recovery.

Lai et al described the use of half dose verteporfin in the treatment of CSCR.[35] They proposed 3 mg/m^2 of verteporfin infused over 8 minutes, followed 2 minutes later with ICG guided PDT. Of the eyes treated, 85% showed complete resolution of the neurosensory retinal detachment and/or pigment epithelial detachment by 1 month after treatment.

Reibaldi et al evaluated the treatment efficacy of standard-fluence PDT versus low-fluence PDT using microperimetry. The study found improvement of macular sensitivity following treatment along with greater efficacy in treatment overall using low-fluence

PDT.[59]

Bae et al compared low fluence PDT to intravitreal ranibizumab in a prospective randomized trial. Although only 8 eyes were randomized to each group, ranibizumab did not appear promising when compared with low fluence PDT. After a single treatment, 6 of the 8 eyes in the PDT group had resolution of subretinal fluid whereas 4 of the 8 eyes in the ranibizumab group ultimately required PDT rescue treatment.[60]

Multiple authors have also begun to use PDT as a first-line therapy for acute focal leaks from CSCR with reported success. Most papers describe resolution of subretinal fluid within 1 month of treatment.

Chan et al demonstrated that there is evidence of choroidal vascular changes on ICG with regard to choroidal permeability and vascular remodeling.[61]

ICG mediated photothrombosis is a technique using a low-intensity laser combined with ICG dye infusion to treat focal areas of hyperpermeability in the choroid. Like PDT, it addresses treatment to the level of the choroidal vasculature.[62]

An 810-nm laser is applied after infusion of ICG dye.

Without prior ICG dye, investigators have also used the 810-nm laser as transpupillary thermotherapy (TTT) with moderate anecdotal success.[63, 64]

However, Penha et al described severe retinal thermal injury in a 31-year-old man following this treatment modality and recommended caution for this adverse event following ICG mediated TTT treatment.[65]

Activity

Patient participation in stress-reducing activities (eg, exercise, meditation, yoga) is recommended.

Medication

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Disclosure: Nothing to disclose.

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Disclosure: Received royalty and consulting fees for: Alcon Laboratories.

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Disclosure: Nothing to disclose.

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Disclosure: Nothing to disclose.

Acknowledgements
The authors and editors of Medscape Reference gratefully acknowledge the contributions of previous author, James C Folk, MD, to the development and writing of this article.

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