What You Should Know About Central Serous Retinopathy

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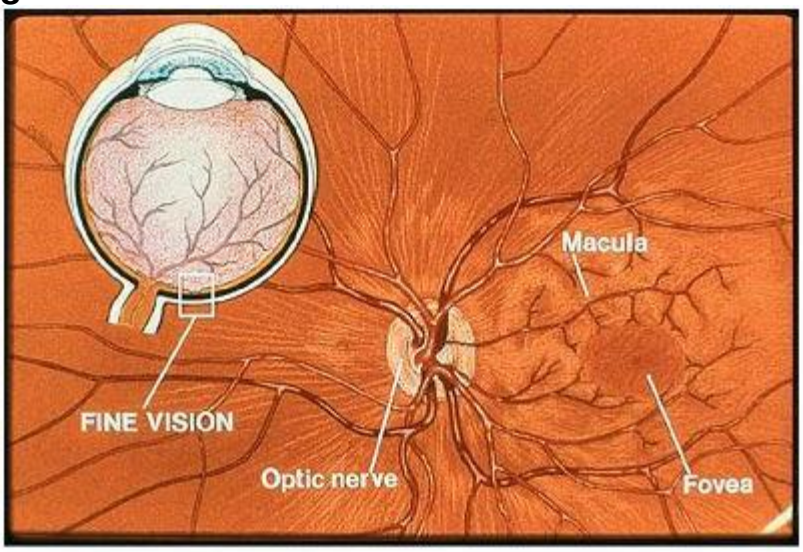
Central serous retinopathy is a condition causing blurred and distorted central vision due to accumulation of fluid under the retina. It affects people between the ages of 20 and 50 and affects men much more often than women (8:1 ratio). It generally resolves spontaneously within 4 months with return of vision to near normal levels, but the affected patient may notice subtle disturbance of vision even after the fluid is gone. About 50% of patients suffer recurrences after the first episode has resolved. Approximately 20% of patients eventually develop the problem in both eyes. There is evidence that the condition is related to stress since it often shows up first and recurs during periods of great stress and seems to improve as stress is reduced.[1]

What Causes Central Serous Retinopathy?

There is no proven cause at this time although research in this area is being done.The most accepted hypothesis is that blood vessels in the choroid, the vascular layer beneath the retina, are hyperpermeable either due to hormonal or inflammatory abnormaliies.These vessels leak fluid into the choroidal intervascular spaces. The excess fluid, combined with a poor pump function of the retinal pigment epithelium overlying the choroid, leads to an accumulation of fluid under the retina.

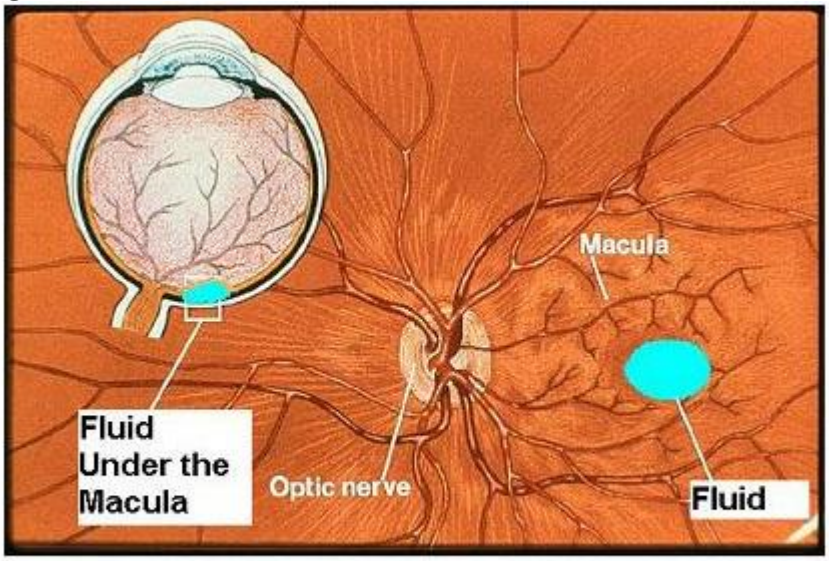
Whatever the exact mechanism, the end result is a blister of fluid under the retina, which is the lining of the back of the eye on which the light is focused. Normally the retina lies flat against the wall of the eye as shown in figure 1. When the blister of fluid collects in this condition (figure 2), the focused image of the light is distorted and blurred. If the fluid remains long enough, the photoreceptors die and scarring develops, leaving permanent visual blurring, but not blindness.

Figure 1



Normal Retina

Figure 2



Retina with Central Serous

What Can Be Done In Central Serous?

At the first visit to the retina specialist, a scan of the retina is obtained to show the collection of fluid. This is called optical coherence tomography (OCT). Figure 3 shows an OCT demonstrating fluid under the retina (yellow arrow). Figure

4 is a fluorescein angiography image, which can also be helpful. The red arrow points to the leakage of fluid.

Figure 3 Spectral domain optical coherence tomograph of an eye with central serous retinopathy

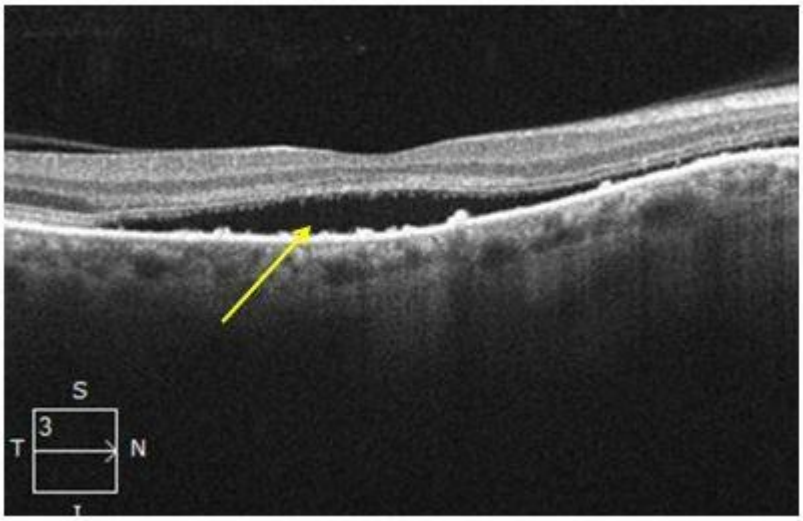
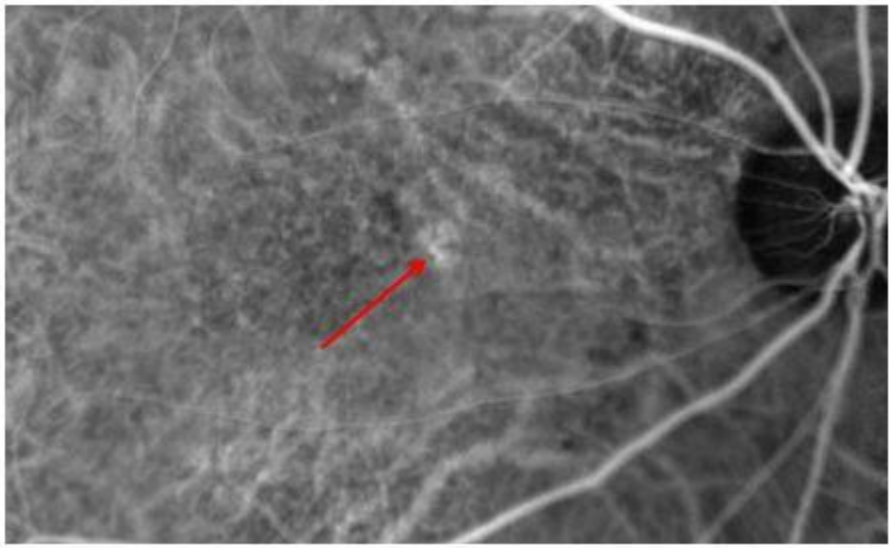


Figure 4 Fluorescein angiography of an eye with central serous retinopathy



In an initial episode of this disease, observation only is recommended for a period of 3 - 4 months since the fluid usually spontaneously resolves. Stress reduction is worthwhile during this period. If the fluid persists past this time or if the episode is a recurrence, laser treatment may be recommended to speed resolution of the problem. When laser treatment is used, the most common form is cold laser in which a drug called verteporfin is injected into a vein and then laser of wavelength 693 nanometers is shone on the leaky spots of the retina for a

duration that can vary from 40-83 seconds. This treatment causes the leaks to seal and the blister of fluid to dry up over the next month in approximately 90% of cases.[2,3]

What Is The Long Term Prognosis?

Usually patients retain good vision for reading and driving in the long term. There will be some residual blurring, loss of accurate color discrimination, or distortion in many cases, however, and a rare patient can lose reading vision to the level of “legal blindness’’. No patient loses the side vision from this condition. Patients with central serous retinopathy should avoid the use of cortisone, prednisone, and similar steroids, which can make the fluid leakage under the retina worse or start a fresh episode if the disease is dormant.

If you have questions after reading this brochure, more in-depth research on your own is possible through the PubMed website of the National Library of Medicine, http://www.ncbi.nlm.nih.gov/entrez/query.fcgi. You can also submit a question online at the home page (click on Contact) of my website www.retinareference.com.

References

1. Yannuzzi LA. Central Serous Chorioretinopathy: A Personal Perspective. Am J Ophthalmology. 2010; 149(3):361-363.
2. Nicolo M, Zoli D, Musolino M, Traverso CE. Association between the efficacy of half-dose photodynamic therapy with indocyanine green angiography and optical coherence tomography findings in the treatment of chronic central serous chorioretinopathy. Am J Ophthalmol 2012;153:474-480.
3. Uetani R, Ito Y, Oiwa K, et al. Half-dose vs one-third-dose photodynamic therapy for chronic central serous chorioretinopathy. Eye 2012;26:640-649.

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