

Core Messages

- Central serous chorioretinopathy is seen mainly in middle-aged males, and is particularly linked to stress and corticosteroids
- Leaks are seen from the level of the retinal pigment epithelium
- There is an underlying choroidal vascular hyperpermeability
- Many cases resolve spontaneously
- Thermal laser and photodynamic therapy are treatment options

6.1 Introduction

Central serous chorioretinopathy (CSC) is characterized by an idiopathic circumscribed serous retinal detachment that is usually confined to the posterior pole caused by leakage of fluid through the retinal pigment epithelium. Some patients have a more chronic version of the disease that can often have descending tracts of fluid inferiorly. Eyes with CSC do not have signs of intraocular inflammation, accelerated hypertension, infiltration or infarction of the choroid or retinal pigment epithelium [47]. The disease was first described as recurrent central retinitis by von Graefe [55], and later by Horniker [26] as capillary-spastic central retinitis. Horniker be-

lieved patients with this condition had a constitutional angioneurosis causing angiospasm and exudation. Gilford and Marquardt [19] termed the disorder central angiospastic retinopathy, and they too believed that the disorder was due to an angioneurotic diathesis. The name central serous retinopathy was adopted by Bennett [4]. Our understanding of the disease was greatly increased through the use of fluorescein angiography. Maumenee [35] first described the leak through the retinal pigment epithelium seen during fluorescein angiography. Gass [13] expanded the description of the fluorescein angiographic findings and named the condition idiopathic central serous choroidopathy. Over time it has been common to refer to the condition as central serous chorioretinopathy.

6.2 Systemic and Ocular Risk Factors

Central serous chorioretinopathy shows certain common demographic features [8, 13, 19, 20, 26, 35, 47, 48, 51, 55]. Although it has been described as occurring in young adults, two large studies found the mean age of affected patients to be mid to late 40s. Male patients substantially outnumber female patients, with a ratio reported in older studies of at least 6:1 [13, 19, 20, 26, 35, 47, 51, 55]. Subsequent studies have shown

that the male:female ratio is less than 3:1 [24, 53]. CSC seems notably severe in certain races, particularly in patients of Hispanic and Asian descent. CSC has been stated to be uncommon in African-Americans, but some authors disagree with this contention [9]. In Western countries CSC appears to be more common in patients with hyperopia or emmetropia, although this association may not be true in other regions, particularly Japan. Patients with CSC frequently have had a preceding stressful event [18] and are likely to be socially well-integrated men, mostly white collar workers or self-employed [46]. Many patients with CSC are self-motivated, pressure themselves to succeed, and seem to internalize stress.

Tittl and associates, in a retrospective case-control study of 230 patients, found that use of corticosteroids (used by 9.1 % of patients), psychotropic medications and the presence of hypertension were risk factors for central serous chorioretinopathy [53]. Haimovici and co-workers [24] found in a retrospective case-control study of 312 patients the use of corticosteroids (used by 14.4 % of patients), pregnancy, antibiotic use, alcohol use, untreated hypertension, and allergic respiratory disease were associated with CSC. Later a smaller, but prospective, case-control study confirmed the finding that corticosteroids are a risk factor for the development of CSC [30]. Particularly severe CSC can occur in patients who have had organ transplants and are being treated with medications to prevent rejection such as corticosteroids [16, 42] or in women who are pregnant [15]. Ocular findings thought to be specifically related to organ transplantation [17] were later described in patients being treated with corticosteroids who never had organ transplantation, but who did have corticosteroid induced CSC [28]. Many patients with CSC

have elevated 24-h urine corticosteroids, which may contribute to the pathogenesis of disease [23]. Excessive use of sympathomimetic agents has also been associated with CSC [36]. In addition, in one study the plasma concentrations of epinephrine and norepinephrine were found to be higher among CSC patients than in controls [52].

Summary for the Clinician

- Middle-aged males
- Hyperopic or emmetropic
- Stress
- Corticosteroid use common

6.3

Presenting Symptoms

The most common symptoms of CSC are decreased and distorted vision. The visual acuity is usually reduced to between 20/30 and 20/60, and can be partially corrected with a low plus lens. Some patients, particularly those with severe or recurrent disease, have visual acuities as low as 20/200. With the onset of the neurosensory detachment, patients describe symptoms of metamorphopsia, micropsia, persistent after images, altered colour vision, and a central dimness in vision that may have grey, or sometimes, a purple cast. Younger patients with CSC usually have unilateral involvement, while older patients are more likely to have bilateral involvement. Patients with inferior detachments from gravitating fluid can have superior visual field defects.

Summary for the Clinician

- Decreased or distorted vision
- Improvement in vision with a small plus lens
- Older patients are more likely to have bilateral disease