

# Idiopathic central serous chorioretinopathy—a physical complication of stress?

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The adverse psychological sequelae of stress are well recognized by occupational health specialists. Potential adverse physical effects, such as ischaemic heart disease, are more contentious but are biologically plausible. This report outlines a case of idiopathic central serous chorioretinopathy (ICSC), an uncommon but potentially sight-threatening condition, which is widely accepted amongst ophthalmologists to be stress related. The condition is not referred to in standard occupational health texts or databases. The report includes a brief review of the ophthalmological literature on which the connection between ICSC and stress has been made, and a need for further research promoted.

**Key words:** Idiopathic central serous chorioretinopathy; stress; vision.

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## Case report

A 50-year-old teacher of art and design was referred to the Occupational Health Service by his line manager for concerns regarding the effect of his work on his vision. The teacher had been under the care of a consultant ophthalmologist for the previous 8 years due to intraocular hypertension, for which he had been under regular review but had received no treatment, during which he maintained normal visual acuity. However, 7 months prior to his referral to Occupational Health, he had developed blurring of vision in the right eye and was seen as an urgent appointment in the ophthalmology out-patients department. The examination at this time revealed visual acuity of 6/12 in the right eye and 6/5 in the left, elevated intraocular pressures and significant retinal pigment epithelial changes in the right macular area. Fundal examination of the left eye was within normal limits. Raised intraocular pressure was subsequently satisfactorily controlled by Timolol 0.5% to both eyes b.d. The retinal changes were further investigated by fundal fluorescein angiography, which confirmed the diagnosis of idiopathic central serous chorioretinopathy

(ICSC). The generalized nature of the macular changes resulted in retinal laser ablation therapy not being indicated and no other specific therapy is available.

During occupational health assessment, a history of interpersonal relationship problems with a line manager was described in the weeks preceding the onset of acute visual disturbance. In addition, a history of little sickness absence, and behaviour characterized by punctuality and punctiliousness about work and homelife was described.

In view of the difficulties the teacher reported at school, the ophthalmologist felt that stress may have significantly exacerbated this condition and consequently removal from the work environment was necessary to protect his sight. Over a period of 9 months since being seen in ophthalmology out-patients, this teacher's visual acuity remained impaired in the right eye and he described difficulty focusing, reading printed and computer text, and the teaching of drawing techniques. An application for ill-health early retirement was subsequently made on the grounds of the functional difficulties of teaching art with impaired vision and the potential adverse effect of work on health, and was accepted.

## Discussion

ICSC is a bullous elevation of the retina secondary to the

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accumulation of sub-retinal serous fluid. This results in serous retinal detachment, which frequently involves the macular area, leading to loss of visual acuity, decreased colour vision and decreased depth perception. Acute episodes resolve spontaneously in the majority of patients within 4 months, and in a review of initial and follow-up findings in US Airforce aviators with ICSC, 97% became fit for return to normal duties [1]. However, permanent visual deficits may result from recurrent or persistent episodes leading to permanent retinal changes.

ICSC has been significantly associated with male sex, middle age, 'stress' and Type A personality [2]. In a small study of 33 patients with ICSC, 91% had experienced a 'very disturbing' psychological event prior to the disturbed vision and the majority were 'tension ridden' [3]. In a retrospective study, the use of psychopharmacological agents and hypertension were significantly associated with ICSC [4], and case reports of family clustering have suggested the presence of inherited psychological and physiological characteristics [5]. Adrenergic stress has been hypothesized as the underlying cause for ICSC, with a similar condition seen in animals after an i.v. injection of adrenaline [6]. Raised circulating adrenergic agents could act on alpha-1 and beta receptors to cause leakage of choroidal vessels [7].

Aetiological references to 'stress' and personality characteristics are common in the ophthalmology literature for ICSC. However, no references were found on HSELINE, NIOSHTIC or CISDOC for the term 'idiopathic central serous chorioretinopathy', and no reference is made to the condition in standard occupational medicine texts [8]. The original research upon which the observations were made is not robust, being retrospective and in small numbers of patients, but

human and animal research are consistent and a biologically plausible hypothesis has been proposed.

## Conclusion

Occupational health professionals should be aware of this rare potential complication of a common occupational complaint. The large number of individuals seen in occupational health departments with stress/anxiety/depression-related problems may also provide opportunities for further research.

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