



## Bilateral Idiopathic Central Serous Chorioretinopathy in a Twelve Year Old Girl

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### Abstract

Central Serous Chorioretinopathy (CSCR) is an accumulation of subretinal fluid with detachment of the neurosensory retina mainly found in young caucasian males. Presented here is a case of a twelve year old girl with idiopathic bilateral CSCR that underwent spontaneous resolution within three months with a return to 6/5 vision. Various treatments have been described for CSCR in adults but due to the rarity of cases in children the management remains largely anecdotal. Simple observation in the first few months appears to be the most appropriate.

**Keywords:** Central serous chorioretinopathy; Paediatric; Bilateral

### Case Presentation

A 12 year old girl presented to the Eye Casualty department after referral from her optician. The girl had been complaining of bilateral visual blurring for a week. The optician noted raised maculae bilaterally. At presentation visual acuity was 6/60 OD and 6/18 OS uncorrected and 6/18 bilaterally with pin hole correction. Anterior segment and intraocular pressure examination were normal with quiet anterior chambers. Pupillary reactions were normal. On fundus examination there was a marked elevation of the macula on the right with a less extensive elevation on the left. OCT examination confirmed serous neurosensory retinal detachment bilaterally of approximately two disc diameters in the right eye and 300µm in the left eye (Figure 1). Fundus fluorescein and Indocyanine Green angiography did not show any active leaking in either eye (Figure 2 and 3).

The patient had no medical history and was systemically well. She was not using any medication and a focussed psychiatric history revealed not mental health issues. Her blood work including full blood count, renal function and electrolytes, CRP, ESR and morning cortisol level were all normal.

At her three week review in clinic her vision had already improved to 6/9 OD 6/12 OS with an improvement on OCT in subretinal fluid in the right eye but slight worsening in the left. She

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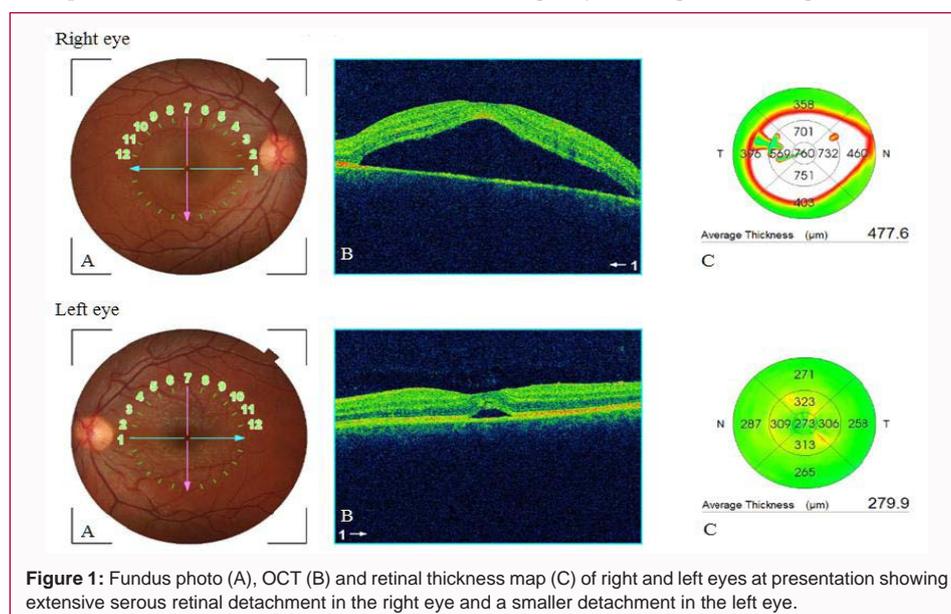
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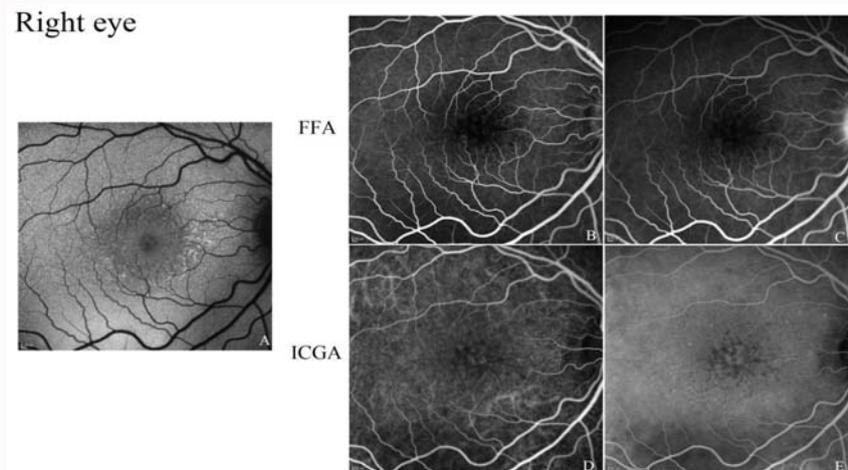
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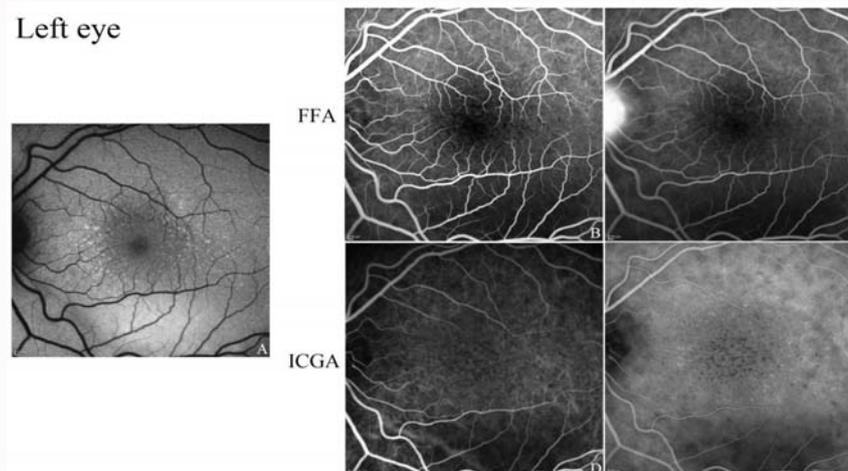
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**Figure 1:** Fundus photo (A), OCT (B) and retinal thickness map (C) of right and left eyes at presentation showing extensive serous retinal detachment in the right eye and a smaller detachment in the left eye.



**Figure 2:** Right eye angiography showing red free (A), early (B) and late (C) Fluorescein angiography and early (D) and late (E) Indocyanine Green angiography. No significant leak observed.



**Figure 3:** Left eye angiography showing red free (A), early (B) and late (C) Fluorescein angiography and early (D) and late (E) Indocyanine Green angiography. No significant leak observed.

was reviewed again at three months and at this point had made a full recovery with vision 6/5 bilaterally corresponding to complete OCT subretinal fluid resolution (Figure 4). No therapy was administered during her follow up period.

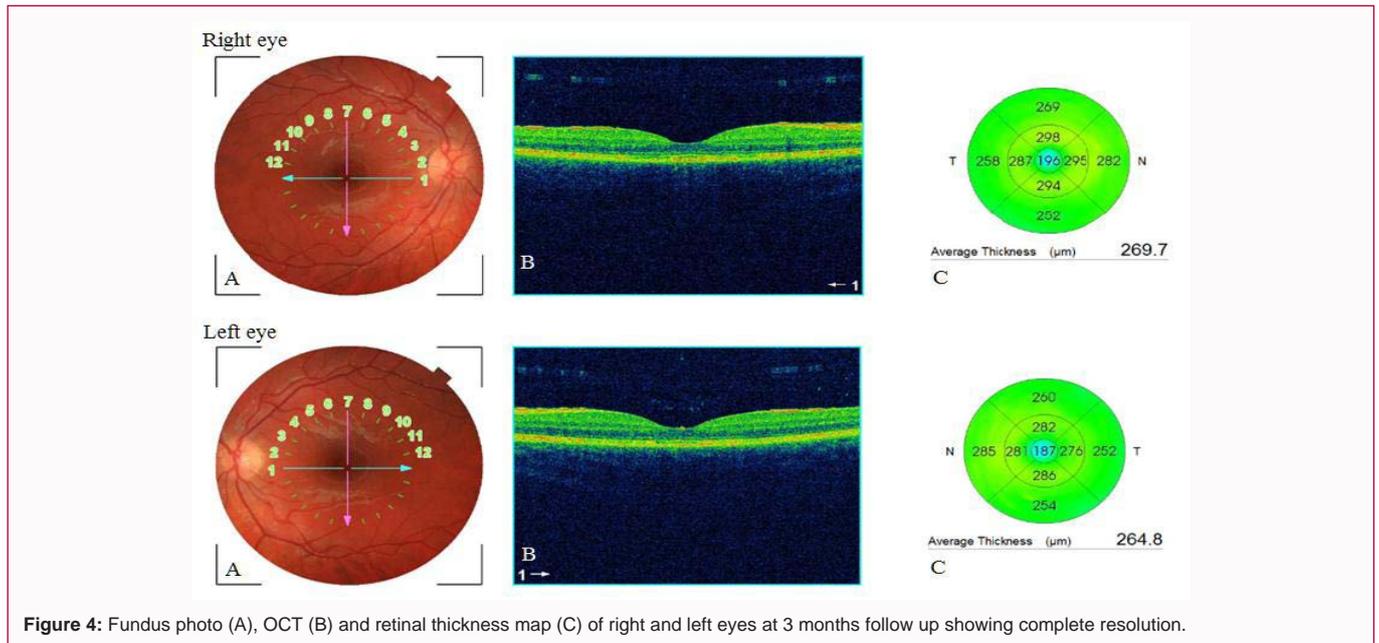
## Discussion

Central Serous Chorioretinopathy (CSCR) is defined by the accumulation of subretinal fluid with detachment of the neurosensory retina. Most cases are self limiting but there is a recognised chronic, recurrent form that results in decreased visual acuity [1]. Men are much more likely to be affected by CSCR than women with the average age of onset of 41 years. The exact aetiology of the disease remains to be elucidated but risk factors other than male sex include Type A personalities, mental stress, the use of corticosteroids, pregnancy, Cushing's disease or steroid producing tumours [2,3].

There have been previous reports of CSCR in children and young adults [4-7]. We present here the first reported case of bilateral idiopathic CSCR in a pre-pubertal girl. The youngest case of CSCR was reported by Fine et al. [4] at 7 years old; however this was in the context of focal choroiditis.

The reported cases of CSCR in children appear to resolve spontaneously. Kim et al. described a case of a 12 year old boy with unilateral idiopathic CSCR who initially improved spontaneously at his 2 month review from 0.5 LogMAR to 0.8, but then had a deterioration at which point he was treated with a single Bevacizumab injection with visual acuity returning to 1.0 LogMAR at 18 months. The authors however, admit that it would be impossible to tell how much of the improvement could be ascribed to the anti-VEGF therapy.

Most cases of CSCR resolve spontaneously within three months [8], as seen in this case. Current treatment approaches include simple observation, focal laser, photodynamic therapy (PDT) with verteporfin, intravitreal anti-VEGF and mineralocorticoid receptor antagonists such as Spironolactone or Eplerenone [1]. Chung et al. concluded in a meta-analysis that there was no clear positive effect of intravitreal anti-VEGF due to the lack of large randomised control trials and significant heterogeneity between studies examining the relative efficacy of intravitreal Bevacizumab with short follow up periods [9]. The efficacy of PDT has been analysed against Ranibizumab in a small randomised trial of 34 eyes in which the investigators found that there



**Figure 4:** Fundus photo (A), OCT (B) and retinal thickness map (C) of right and left eyes at 3 months follow up showing complete resolution.

were significant short term improvements in the PDT group over the Ranibizumab group [10]. Central retinal thickness was significantly improved in the PDT group up to month 6 at which point they tailed off and were not significantly different to the Ranibizumab group. There were more modest improvements in visual acuity which were not significantly different.

It would appear that cases of CSCR in children follow a similar course to that described in adults and the most appropriate initial treatment is watchful waiting. Should the disease take a more chronic or recurrent form after three months the evidence points slightly in the favour of PDT as the next line of management, and most likely better tolerated by children.

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