Case report

Bilateral central serous chorio-retinopathy in pregnancy presenting with severe visual loss

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Abstract

Introduction: Bilateral central serous chorio-retinopathy is an unusual presentation. **Objective:** To report a case of pregnancy-induced bilateral central serous chorio-retinopathy. **Case:** A thirty-year-old woman complaining of reduced vision in both the eyes was referred for ophthalmoscopic evaluation in her third trimester of pregnancy. The best-corrected visual acuity was 6/60 in the right eye and finger counting at four meters in the left. The funduscopic examination revealed serous macular detachment with white sub-retinal exudates in both the eyes. Optical coherence tomography sections through the macula demonstrated serous elevation of the retina and retinal pigment epithelial detachment in both the eyes. The serous macular detachment resolved and the patient recovered to the visual acuity of 6/6 in both the eyes after twelve weeks of delivery. The OCT showed resolution of the sub-retinal fluid and disappearance of the sub-macular exudate in the right eye, but the resolution was partial in the left eye. **Conclusion:** Pregnancy is a risk factor for CSCR and it can present with severe bilateral visual diminution.

Keywords: CSCR, pregnancy, OCT

Introduction

A central serous chorioretinopathy (CSCR) may occur in healthy women in the last trimester of uncomplicated pregnancy. This type is associated with serofibrinous sub-retinal fluid in 90 % of the affected women (Gass et al, 1991). The CSCR in pregnancy is generally unilateral and occurs in healthy women. The patients usually present with moderately reduced visual acuity. We report a case of a CSCR during late pregnancy in the absence of any obstetric complications. The case was unusual because of its bilateral involvement with severe visual loss, which has not been reported earlier. The condition resolved in the postpartum phase and the visual recovery was excellent.

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Case report

A previously healthy 30-year-old woman presented with progressive painless loss of vision in both the eyes for two weeks. Diminution of vision was not associated with any trauma, redness, watering or diplopia. The patient was a primigravida, in her third trimester of pregnancy. There was no past history of a similar attack. She was non-diabetic and non-hypertensive. The best-corrected visual acuity (BCVA) was 6/60 in the right eye and finger counting at four meters in the left. Extraocular movements, pupillary reaction and the intraocular pressure were within normal limits. Ophthalmoscopy and slit-lamp biomicroscopy

revealed a circumscribed round area of retinal elevation in the macula of both the eyes, more marked in the left. The foveal reflex was absent in both the eyes (Figure 1). The sub-retinal fluid was filled with gray-white serofibrinous exudates. There were two blister-like elevations close to the macula in each eye, suggestive of pigment epithelial detachment (PED). Optical coherence tomography (OCT) showed serous detachment of the macula in both the eyes along with areas of PED (Figure 2). Her blood pressure was 128/86 mm Hg and hemoglobin 12 gm/dl. Routine urine examination revealed no protein in the urine. The routine blood report and the postprandial blood sugar were within normal values. Her antenatal examination records were within normal limits. On the basis of the clinical examination and the OCT picture, the diagnosis of CSCR in pregnancy was made. No treatment was prescribed. She was reassured that her vision was likely to improve over a period of time.

At one month, or immediately after delivery, the BCVA and fundus picture were the same as they were before. At two months' follow- up, the visual acuity was 6/18 in the right eye and 6/24 in the left. The fundus showed a resolving CSCR (Figure 3). At three months' follow-up, the BCVA was 6/6 in the right eye and 6/12 in the left. A repeat OCT showed a normal macula in the right eye and an elevated retinal pigment epithelium complex in the left eye (Figure 4). The BCVA became 6/6 in both eyes at six months' follow-up. Till the date of the last follow-up, there was no further recurrence.

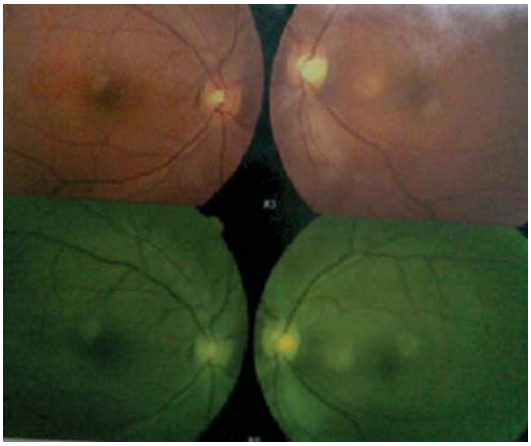

Figure 1: Fundus photograph showing circumscribed elevated areas of macula with white sub-retinal exudates in both the eyes of a pregnant woman.

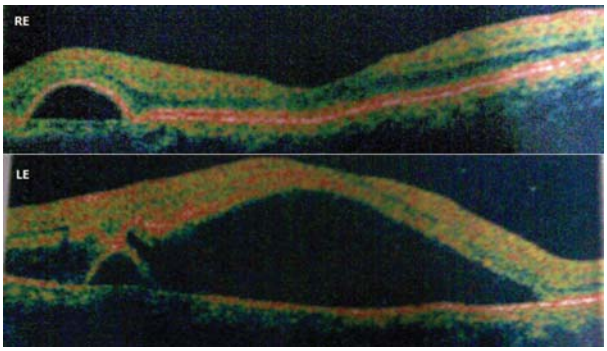

Figure 2: Serous neurosensory detachment of the macula (LE > RE) and PED in both the eyes as seen on the OCT (LE > RE).

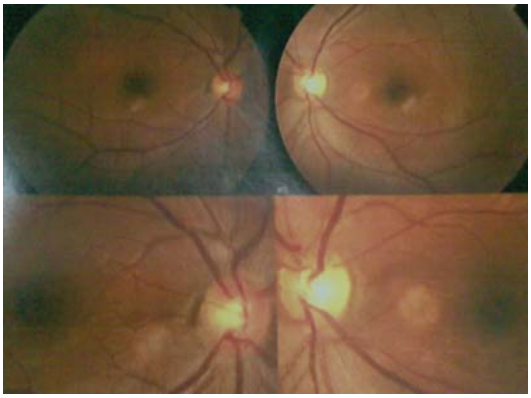

Figure 3: Fundus photograph showing resolving CSCR.

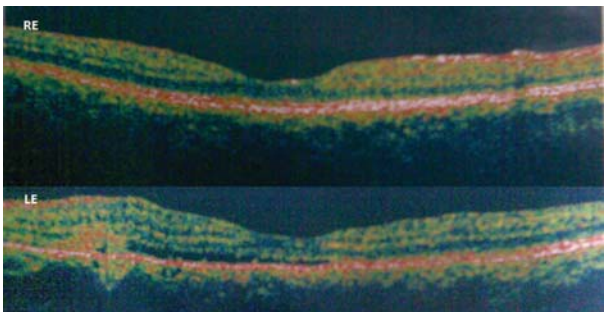

Figure 4: The OCT showing complete resolution of the neurosensory and RPE detachment in the right eye and partial resolution in the left after 12 weeks of delivery.

Discussion

CSCR is characterized by detachment of sensory retina due to an accumulation of serous fluid between the photoreceptor outer segment and the RPE layers. CSCR is one of the 10 most common diseases of the posterior segment of the eye and a frequent cause of mild to moderate visual loss (Wang et al, 2008)**.** CSCR may occur in healthy women in the last trimester of uncomplicated pregnancy. This type is associated with serofibrinous sub-retinal fluid in 90 % of the affected women, which was a feature in our case. The detachment resolves in the postpartum phase and there is excellent visual recovery. Women receiving corticosteroids are predisposed to CSCR with sub-retinal fibrin (Hussain et al, 1998)**.**

White sub-retinal exudates are found in the majority of cases of CSCR in pregnancy, in contrast to cases not associated with pregnancy (Mayo et al, 2005). Changes in metabolism, blood volume, blood circulation and hormonal profile that occur in normal pregnancy may affect the eye of the pregnant woman, which is physiological, but sometimes may be associated with visual problems. Increased levels of endogenous cortisol are present in patients with CSCR (Garg et al, 1997). Preeclampsia and ecclampsia can also cause visual problems due to serous retinal detachments, which is a bilateral condition. CSCR in pregnancy is generally unilateral and occurs in healthy women. The onset of visual symptoms usually occurs in the third trimester. However, it can also happen in the first or second trimester of pregnancy. Patients usually present with moderately-reduced visual acuity associated with unilateral metamorphopsia, a positive scotoma and micropsia, if the CSCR affects the central part of macula; otherwise, the woman is usually asymptomatic. But in our case, it was a bilateral affection with severe visual loss, which has not been reported earlier. The CSCR usually resolves spontaneously due to absorption of the serous fluid towards the end of the pregnancy or within a few months after delivery and visual acuity returns to normal. The changes to the central visual field, metamorphopsia, and RPE alterations may persist (Shaw, 2003; Cheung, 2012). In our case, though visual acuity in both the eyes became normal at six months' follow-up, the RPE alteration persisted.

Janet S et all reported 14 cases of CSCR in pregnancy. Sub-retinal fibrinous exudates were seen in 90% of the patients, compared with fewer than 20% of patients in a typical (non-pregnant) CSCR series. There was no recurrence of the disease in any of the cases outside of pregnancy, but the condition recurred in subsequent pregnancies in all the cases. In their series, the resolution of the serous detachment was seen near the end of the pregnancy or within the first few months after delivery in all the cases. There was no recurrence of CSCR in only one patient in the subsequent pregnancy, which suggests that recurrence in the context of pregnancy is not inevitable. No racial predominance was seen in the development of CSCR in pregnancy. Another study reported that the disorder may recur outside of pregnancy also (Sunness et al, 1993).

In one series, sixty-two percent (52 of 84) of the patients achieved complete recovery over a median of five months and 88% had a final vision of 20/40 or better. Patients with sub-retinal precipitates, single occurrence, absence of hormone replacement therapy (HRT), a duration

of less than five months, or an absence of a PED were more likely to recover completely (Perkins et al, 2000).

Said-Ahmed K et al (2012) found four patients with CSCR among 17,000 pregnant women reviewed over three years. Two patients had CSCR with white sub-retinal exudates and two had no exudates. There was complete recovery in all the patients within three months after delivery. They found a stress factor in two patients due to repeated failure with *in vitro* fertilization. We could not find any such stress factor in our case.

Hirji et al, (2010) reported a case of CSCR during the second stage of labor and they suggested that the possible primary pathology in CSCR is the venous congestion leading to hyperperme ability of choroidal vessels.

Conclusion

Pregnancy is a risk factor for the development of CSCR. The diagnosis of this condition is made clinically, but optical coherence tomography is valuable in both identifying and following patients, without any known adverse effects to the infant.

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