Natural course of central serous chorioretinopathy without subretinal exudates in normal pregnancy

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ABSTRACT • RÉSUMÉ

Background: Pregnancy is a well-known risk factor for central serous chorioretinopathy (CSCR).

Methods: Patients were examined using slit-lamp biomicroscopy, fundus examination, fundus photography, and optical coherence tomography, making note of best-corrected visual acuity.

Results: All patients had resolution of CSCR.

Interpretation: We present CSCR in 3 consecutive pregnant women without subretinal exudates.

CENTRAL SEROUS CHORIORETINOPATHY (CSCR) is characterized by the accumulation of subretinal fluid at the level of the retinal pigment epithelium (RPE), resulting in a circumscribed neurosensory retinal detachment (RD).

Patients usually present with metamorphopsia and moderately reduced visual acuity (VA). CSCR typically affects young and middle-aged males. In most cases, CSCR resolves within a few months, and VA returns to normal. However, RPE alterations, metamorphopsia, and central visual field changes may persist. Stress, steroids, pregnancy, Cushing’s syndrome, systemic hypertension, and lupus erythematosus have been implicated in the pathogenesis of CSCR. The condition has been reported to be occasionally familial. A recent study has identified new risk factors, such as antibiotic and alcohol use and allergic respiratory disease.

We present the natural course of CSCR without subretinal infiltrates in 3 women with normal pregnancies.

METHODS

This study was approved by the Research Ethics Board of the Sultan Qaboos University, Oman. Written informed consent was obtained from all patients.

The 3 consecutive pregnant patients of Arab origin were aged 25 to 28 years and presented with metamorphopsia, blurred vision, and a central scotoma. In all patients, symptoms commenced near the beginning of the third trimester of pregnancy (Table 1). A complete medical history was obtained. All patients underwent testing for best-corrected visual acuity, and were examined using Amsler grid charting, slit-lamp biomicroscopy, dilated fundus examination, and fundus photography (Figs. 1 and 2). Optical coherence tomography (OCT) macular analysis was done for 1 patient only. A clinical diagnosis of CSCR was made in all 3 patients, supported by ocular investigations. Although there is no evidence that fluorescein angiography during pregnancy adversely affects the fetus, it was not performed in our patients. None of these patients had a history of corticosteroid use before or during follow-up.

RESULTS

Table 1 summarizes the findings. The age of the 3 patients...
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ranged from 25 to 28 years (mean age 26.6 years). The average follow-up was 2.3 months (range 2–3 months). The average age of gestation was 6.6 months (range 6–7 months). Excessive stress was not reported. None of the women had a history of hypertension or was on any medication that would have influenced the onset or course of the disease.

The average duration of symptoms was 2 months (range 1–3 months). All 3 patients had a small area of neurosensory RD in the posterior pole in the left eye. No subretinal exudates or intraocular inflammation was noticed in our patients. On first visit, the OCT thickness of the retina and subretinal fluid of case 3 measured 510 µm (1 mm away from the fovea; Fig. 3), and 213 µm after 73 days (Fig. 4). All patients had spontaneous resolution of the CSCR, with return of normal vision. The relevant observation of this study is the absence of subretinal exudate in all 3 patients, despite the fact that such exudate is very common in CSCR associated with pregnancy.

**INTERPRETATION**

CSCR in women typically occurs between the ages of 40 and 60 years, and is unilateral in 90% of patients. The serous RD usually resolves within 5 months, with good final VA. Thirty percent to 50% of patients have 1 or more recurrences. Five percent may develop prolonged and (or) recurrent episodes of sensory RD.

White subretinal exudates are found in cases of CSCR in pregnancy, in contrast to cases not associated with pregnancy. These exudates, believed to be fibrin, may be misinterpreted as focal retinitis or subretinal neovascularization. Although Sunness et al. have reported subretinal exudates in 3 out of 4 of their patients (all white), such precipitates have been reported to be independent of race. Mayo and Tolentino reported subretinal exudate in a 32-year-old pregnant black woman with CSCR. None of our patients had subretinal exudate. Although the presence of subretinal exudate is common in CSCR accompanying pregnancy (50%–90%), Quillen et al. have reported the occurrence of such exudates to be more common in those patients who were on corticosteroids. Absence of subretinal exudate in our patients could be because none of these patients had any history of corticosteroid use before or during the follow-up.

The underlying mechanism of CSCR in pregnancy remains unclear. It is believed that raised levels of endogenous steroid cortisol could set off a chain of events that alter the blood–retinal barrier, choriocapillaries, and RPE, resulting in focal areas of increased permeability, and consequently precipitating CSCR.

None of our patients had subretinal exudates or a history of glucocorticoid use. This study involved a small number of patients with CSCR without subretinal exudates. Any racial implication would require a larger series of patients.

**Fig. 1**—Fundus photograph showing typical central serous chorioretinopathy at first presentation, case 3.

**Fig. 2**—Fundus photograph after spontaneous resolution of central serous chorioretinopathy, case 3.

**Fig. 3**—Optical coherence tomography showing typical central serous chorioretinopathy at first presentation, case 3.

**Fig. 4**—Optical coherence tomography after spontaneous resolution of central serous chorioretinopathy, case 3.
REFERENCES


Key words: central serous chorioretinopathy, pregnancy, subretinal exudate