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CASE REPORT

Bilateral serous macular detachment as a complication of preeclampsia: A case report

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ABSTRACT

The objective of the study was to report a case of preeclamptic pregnant woman with bilateral serous macular detachment following cesarean section. This is a case report of a 29-year-old pregnant woman with bilateral serous macular detachment following cesarean section due to severe preeclampsia. The patient applied with a complaint of sudden vision blur in both eyes after an emergent cesarean delivery. Ophthalmologic examination revealed visual acuity of 1/10 on the right eye and 4/10 on the left eye. She had bilateral serous macular detachment. Within 10 days, visual acuity improved to 7/10 in both eyes. Optical coherence tomography revealed disappearance of the subretinal fluid with distribution of retinal photoreceptor layer in both eyes. Preeclampsia may lead to a transient serous macular detachment with visual sequelae.

Keywords: Eye, preeclampsia, pregnancy, serous macular detachment.

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INTRODUCTION

Preeclampsia is a pregnancy-specific vascular disorder, the pathogenesis of which is still not completely understood. According to the two new diagnostic criteria by the American College of Obstetricians and Gynecologists in 2013 and the International Society for the Study of Hypertension in Pregnancy, new-onset hypertension in the absence of proteinuria but combined with hematological complications, renal insufficiency, impaired liver function, neurological symptoms, or uteroplacental dysfunction also fulfill diagnostic criteria for preeclampsia.[1]

It occurs in 5% of first pregnancies and usually develops in the third trimester of pregnancy.[2] The primary ocular manifestations of preeclampsia are related to dysfunction of both retinal and choroidal circulations.[3,4] Cotton wool spots, hemorrhages, retinal edema, papilledema, and serous retinal detachment may develop in cases of preeclampsia.[5]

Herein, we describe a case of a 29-year-old pregnant woman with bilateral serous macular detachment following cesarean section due to severe preeclampsia. Patient consent was obtained and the Declaration of Helsinki was followed in this case report.

CASE REPORT

The patient was a 29-year-old pregnant woman who received cesarean delivery at week 38 due to severe preeclampsia. This was her first pregnancy. During delivery, her systemic blood pressure was 180/100 mmHg and urinary protein was 4+ (more than 2 g/day). She applied to our clinic the day after the cesarean delivery with a complaint of sudden vision blur in both eyes.

After her referral to the ophthalmology department, blood pressure was decreased to 140/90 mmHg. There was no preceding history of any ocular disease. Ophthalmologic examination revealed visual acuity of 1/10 on the right eye and 4/10 on the left eye.[6] There was no afferent pupillary defect. Intraocular pressure was 12 mmHg in the right eye and 14 mmHg in the left eye. She had normal anterior segment findings bilaterally. There were no inflammatory cells in the eye. Dilated fundus examination revealed bilateral serous macular detachment at the posterior pole in both eyes. Optical coherence tomography (OCT) (Spectralis®, Heidelberg Engineering Inc., Heidelberg, Germany) revealed a nearly bullous serous macular detachment and intraretinal cystoid spaces on both sides (Fig. 1a, b).[7]

Her systemic blood pressure gradually declined once she was started oral medications. At 10 days after the initial ophthalmological examination, systemic blood pressure was decreased to 110/70 mmHg. Visual acuity was 7/10 in both eyes (Snellen). There was no afferent pupillary defect. The eye was quiet. OCT revealed the disappearance of subretinal fluid in both eyes. There was distribution of photoreceptor cell layer and pigmentary changes in macular region in both eyes on OCT (Fig. 2a, b).

DISCUSSION

The most common ocular finding of preeclampsia is a severe arteriolar spasm.[4] Retinal hemorrhages, edema, and cotton wool spots secondary to arteriolar damage may also occur. Retinal vascular occlusive disease may also develop in these cases.[6]

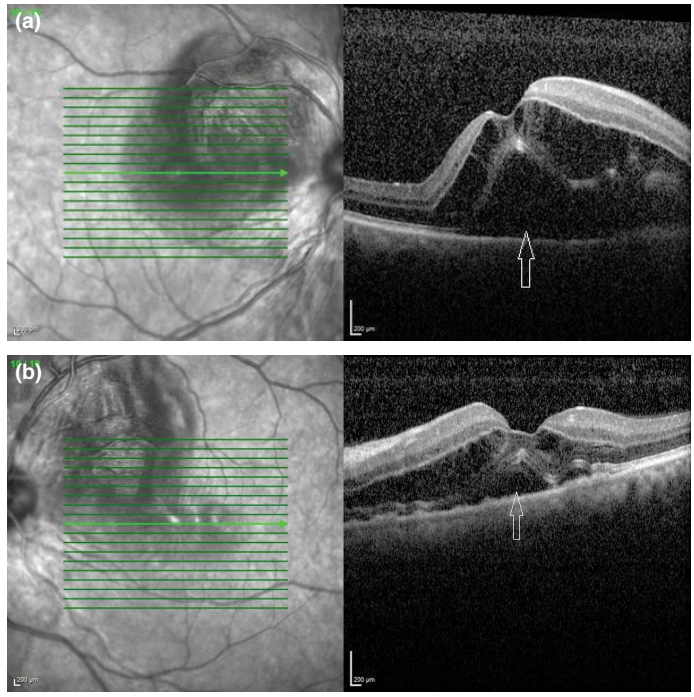

Figure 1: (a, b) Optical coherence tomography revealed large serous macular detachment (vertical arrow) with intraretinal cystoid spaces in both eyes.

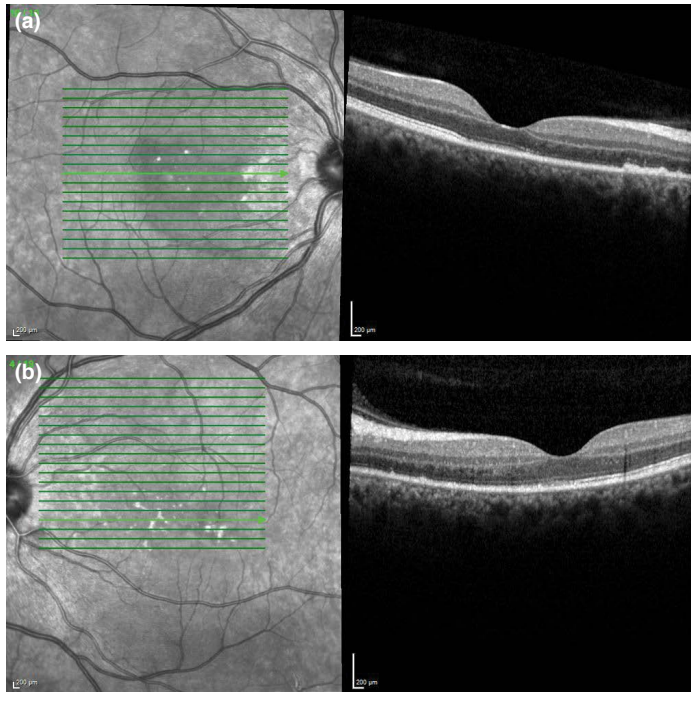

Figure 2: (a, b) The disappearance of the subretinal fluid with photoreceptor disruption in both eyes.

Serous macular detachment is a rare complication of preeclampsia. As known, the detachment usually develops in patients with severe preeclampsia (blood pressure >160/110 mmHg). The exact pathophysiology of serous neurosensory detachment in a case of preeclampsia is not well-known. Preeclampsia is supposed to cause

acute retinal pigment epitheliopathy due to choroidal ischemia. Some studies have also shown that non-perfusion of the choriocapillaris can cause necrosis of the overlying retinal pigment epithelium, which leads to the breakdown of the outer blood–retinal barrier and the development of serous retinal detachment.[8–11]

Postpartum bilateral serous macular detachment has been described in the literature.[12–14] Bilateral serous retinal detachment has developed a few hours after delivery in these reports. They emphasized that a few weeks after delivery, there was spontaneous resorption of the subretinal fluid and complete resolution bilateral serous retinal detachment, with residual pigmentary changes of the retinal pigment epithelium.[12–14]

In our case, bilateral serous retinal detachment developed on the 1st day after giving birth. The subretinal fluid gradually resolved without any treatment except for antihypertensive drugs. The patient's visual acuity significantly improved after 10 days. This case shows the importance of being cautious about the rare conditions that may occur in pregnant women with preeclampsia. Immediate evaluation can be needed. These patients require observation, and medical treatment with systemic antihypertensive agents may be helpful.

Serous macular detachment is a rare complication of preeclampsia. Mostly, it resolves spontaneously after the delivery and patients do not have much visual sequelae. Poor visual outcome can be associated with macular involvement as in this case. In a minority of patients with severe preeclampsia, there is a possibility of residual visual loss despite the resolution of the retinal detachment, due to the retinal photoreceptor layer disruption. Therefore, it should be noted that in cases of severe preeclampsia, serious ocular complications may occur.

CONCLUSION

The obstetricians should suspect possible retinal complications in the setting of preeclampsia associated visual loss and refer to the ophthalmologists for detailed evaluation to avoid further visual loss.

Statement

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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