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When Preeclampsia Affects the Retina: Bilateral Serous Detachment, An Unusual Presentation

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Abstract **Case Report**

Preeclampsia is a serious complication of pregnancy that can affect multiple organs, including the eyes. Although preeclampsia is typically associated with retinal artery narrowing, more severe complications such as cortical blindness, optic neuropathy, and serous retinal detachment (SRD) can occur in rare cases. We report a case of bilateral serous retinal detachment in a patient with severe preeclampsia, with a favorable outcome after appropriate management. SRD in preeclampsia is a rare complication that can occur even in the immediate postpartum period, with a generally favorable prognosis. This case highlights the importance of ophthalmologic monitoring in patients with preeclampsia.

Keywords: Preeclampsia, Serous Retinal Detachment, Ocular Complication, Pregnancy, Hypertension, Tomographie En Cohérence Optique (OCT), Retinal Involvement, Favorable Outcome, Multidisciplinary Management.

INTRODUCTION

Preeclampsia is a multisystemic pathology of pregnancy characterized by hypertension and proteinuria, which can lead to severe complications. Ocular involvement is rare but can be serious. The most common ophthalmological manifestation of preeclampsia is the narrowing of retinal arteries, the frequency of which increases with the severity of the disease. This manifestation is often asymptomatic and resolves without sequelae after delivery, and does not require systematic screening. Other more severe ophthalmological manifestations, such as cortical blindness, optic neuropathy, and serous retinal disease, are rare and exceptional.

OBSERVATION

A 28-year-old primigravida at 37 weeks of gestation presented to the emergency department with headaches, bilateral blurred vision, and tinnitus. Upon admission, her blood pressure was 185/105 mmHg, and she had proteinuria (3+ on Labstix) and lower limb edema. She was hospitalized for rest and blood pressure monitoring, and blood tests were performed. Antihypertensive treatment with a loading dose of magnesium sulfate was administered. One hour later, the patient reported a sudden decrease in bilateral visual acuity, and her blood pressure increased to 196/120 mmHg, necessitating an emergency cesarean section. Postpartum, her blood pressure improved significantly with nicardipine.

Ophthalmological examination revealed: Visual acuity: 2/10 in both eyes without correction

- Normal anterior segment
- Preserved pupillary reflexes
- Intraocular pressure: 12 mmHg
- Fundus examination: Bilateral serous macular detachment
- Optical Coherence Tomography (OCT): Confirmed bilateral serous macular detachment. Management of the serous retinal detachment (SRD) involved close ophthalmological monitoring rather than initiating treatment. Five days later, the detachments had significantly decreased, and visual acuity improved to 3/10 in the right eye and 4/10 in the left eye. One month later, the patient had recovered visual acuity of 10/10 in both eyes without correction, with complete resolution of the subretinal fluid.

Figure 1a: OCT of the Right Eye Showing Serous Retinal Detachment

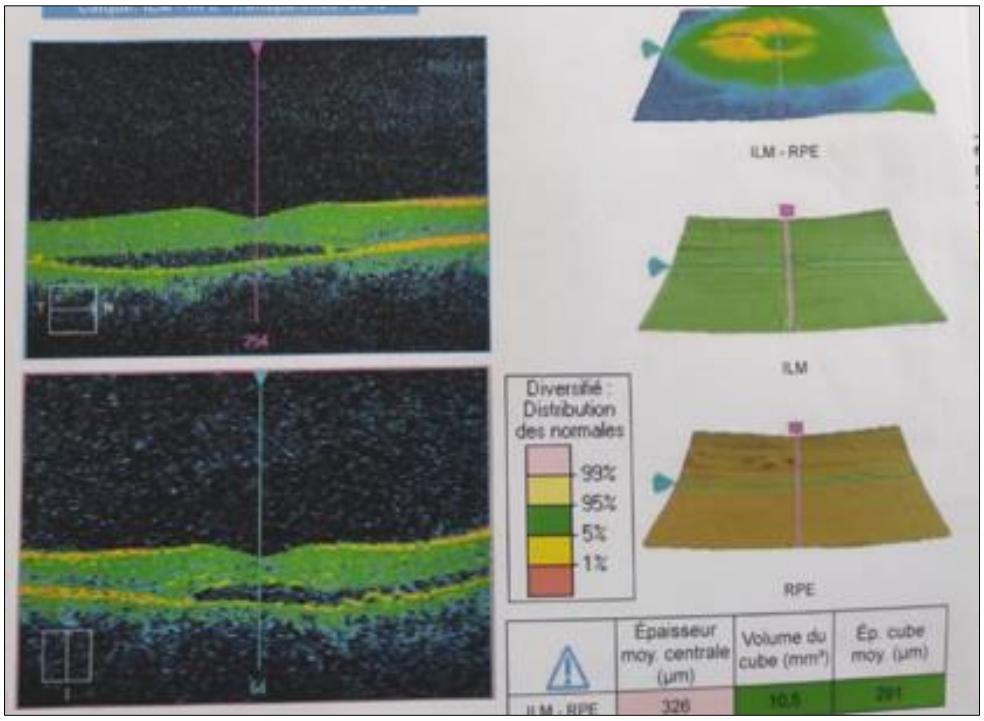

Figure 1b: OCT of the left Eye Showing Serous Retinal Detachment

DISCUSSION

Serous retinal detachment (SRD) is a rare complication of preeclampsia, affecting less than 1 in 10,000 patients with preeclampsia [4]. However, this estimate may be underestimated, as patients do not typically undergo routine ophthalmological examination, and SRD can be localized outside the macula, making it invisible [5]. The exact pathophysiology of SRD is unknown, but it is thought to be caused by choroidal ischemia due to arteriolar vasospasm. SRD in preeclampsia is often associated with vascular changes and increased permeability. A recent literature review found that SRD associated with preeclampsia is most often bilateral (89%) and occurs more frequently in primiparous women (60%), with primiparity itself being a risk factor for preeclampsia [3]. Management of hypertension and ophthalmological monitoring are crucial. Most reported cases show regression of abnormalities after control of preeclampsia [6, 7].

CONCLUSION

Bilateral serous retinal detachment is a rare complication of preeclampsia but can have a favorable outcome with proper management. Collaboration

between obstetricians and ophthalmologists is essential to optimize care.

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