

Exudative retinal detachment in eclampsia. *A management dilemma*

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Visual disturbances are reported in 25% of women with severe pre-eclampsia, and in 50% of women with eclampsia.¹ They may be related to cerebral vascular insufficiency or ophthalmic complications such as optic neuropathy, exudative retinal detachment (RD), and hemorrhagic or exudative maculopathy. Retinal detachment is a rare complication, occurring in less than 1% of patients with pre-eclampsia, and poses a management dilemma. We report the occurrence of bilateral exudative RD in a primigravida who developed eclampsia in the last trimester of pregnancy, and discuss the clinical features, differential diagnosis, and management options.

A 21-year-old unbooked primigravida was admitted at 35 weeks gestation with tonic-clonic convulsions, which commenced 2 hours prior to presentation. She reported mild headache but no visual disturbances. Her previous medical history was unremarkable. General examination showed a fully conscious patient with blood pressure (BP) of 160/100 mm Hg, exaggerated tendon reflexes, and ankle clonus. Abdominal examination revealed a gestational size of 32 weeks, and cephalic presentation. Ultrasonography confirmed a singleton, live pregnancy. Ophthalmic consultation revealed normal visual acuity and pupillary responses in both eyes. Indirect ophthalmoscopy showed normal optic discs, macula, and retinal vasculature. Bilateral exudative RDs were detected surrounding the optic discs. Fundus photography was not carried out on that day due to the critical condition of the patient. Laboratory tests including full blood count, coagulation screen, serum electrolytes, liver and renal function tests were normal. Urinalysis showed 4+ proteinuria. The spot urine protein: creatinine ratio was 6.3. Labetalol and magnesium sulphate infusion was commenced for BP control and seizure prophylaxis. Eclampsia is an indication for termination of pregnancy; hence a caesarean section was considered. However, the cervical assessment revealed a Bishop's score of 7, which is favorable for vaginal delivery and she went into spontaneous labor. She had a normal vaginal delivery of a baby boy, weighing 2200 gms with good Apgar

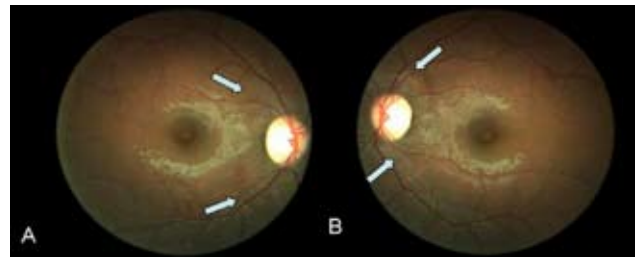


Figure 1 - Fundus photo taken on the first day postpartum. A well-defined exudative retinal detachment is seen (arrows), surrounding the optic discs in the right (A) and left (B) eye. Note the absence of retinal vascular changes, hemorrhages, or exudates. The shiny, circular reflexes around the fovea have a normal oval light reflex.

score, 6 hours after admission. The following day (the first day postpartum), the ophthalmic review revealed a significant reduction in the extent and height of the RD (Figure 1). She was discharged after one week, in good condition. One month later, complete resolution of the RD without sequelae was revealed. Eclampsia is associated with severe vasospasm throughout the body. Cerebral vasoconstriction underlies manifestations such as headache, hemiparesis, hyperreflexia, and seizures. Choroidal ischemia consequent to terminal arteriolar vasospasm affects the retinal pigment epithelium (RPE) and leads to break down the blood-retinal barrier, leakage of proteins and fluid from the choriocapillaries into the subretinal space, and exudative RD.² Retinal displacement is generally a rare complication, occurs in less than 1% of patients with pre-eclampsia,³ and poses a management dilemma. Exudative RD is characterized ophthalmoscopically by a focal, smooth, dome-shaped elevation of the retina. The subretinal fluid obeys gravity; hence, the RD shifts in position with changes in posture. Although fluorescein angiographic studies of pre-eclamptic patients with serous detachments have been limited, because of the fear of teratogenic effects on the fetus, studies have shown delayed filling of the choriocapillaries and no abnormality of the retinal vasculature. On the contrary, areas of choroidal non-filling with late fluorescein extravasation into the subretinal and sub-RPE spaces were observed.⁴ In pre-eclampsia and eclampsia, the RD is often associated with yellow-white deep seated focal lesions (Elschnig's spots) attributed to choroidal ischemia. The lesions have been most commonly observed in the peripapillary area and macula. Lesions resolved without scarring in 3 weeks in most eyes. Some eyes develop residual pigmentary mottling, or significant chorioretinal atrophy. Segmental or generalized constriction of the retinal arterioles, and retinal hemorrhages, edema, and cotton wool spots

secondary to arteriolar damage may also be observed. However, RD secondary to choroidal ischemia is usually unaccompanied by significant retinal vascular abnormalities,⁵ as was the case in our patient. The RD may cause visual disturbance if it involves the macula. However, most exudative RDs resolve spontaneously, with complete return of vision as in our case.⁴ Infections, inflammations, neoplasms or vascular pathologies, which may result in exudative RD, were ruled out based on clinical findings in our patient. Concerns have been raised regarding the safety of vaginal delivery in the presence of RD.¹ Spontaneous vaginal delivery may be safe in such women as reported by Landau et al² in their study of 19 deliveries in women with RD.

In conclusion, exudative RD in eclampsia occurs secondary to choroidal hypoperfusion, usually resolves spontaneously with conservative management, and is not a contraindication for vaginal delivery.

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