

Bilateral retinal detachment in a case of severe preeclampsia: A case report

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ABSTRACT: Serous retinal detachment is an unusual cause of vision loss in preeclampsia. We report 21 year old patient with bilateral retinal detachment that resolved spontaneously following conservative management.

Keywords: Preeclampsia, retinal detachment, hypertension

1. INTRODUCTION

Preeclampsia is an obstetric disease of unknown cause that affects approximately 5 % of pregnant women. Visual symptoms may be affected in 30-100% of patients with preeclampsia^[1]. The possible mechanisms, either central or peripheral, include retinal arteriolar vasospasm, thrombosis of the central retinal arteries, reversible cortical pathology, and retinal detachment^[2]. Retinal detachment, reported in 1-2% of patients with severe preeclampsia, is usually bilateral and serous, and its pathogenesis is often related to choroidal ischemia secondary to an intense arteriolar vasoconstriction^[3-6]. This complication has higher incidence in eclamptic patients^[1]. Over the past years, the incidence of visual problems has been declining, which probably reflects the lower incidence of severe pre-eclampsia due to better antenatal care. The following report is on a rare case of Bilateral retinal detachment in a patient with severe pre-eclampsia

CASE REPORT

A 21- year old nulliparous women was admitted in the emergency department at 40 weeks 2 days gestation. She was referred for severe preeclampsia with blurring of vision in both eyes since 1 day. On admission, patient complained of headache and blurring of vision since 1 day, swelling all over the body since 3 months, blood pressure was recorded at 170/120 mm Hg, pedal edema seen extending upto legs and 3+ proteinuria.

Her initial laboratory investigations revealed a Hb level of 11.1gm%, total white blood cell count of 9900/cu.mm, platelet count of 1,20,000/cu.mm, blood urea 24mg%, SGOT 32Iu/L, SGPT 17Iu/L, ALP 201Iu/L, serum creatinine 0.90mg%, bleeding time 1.50 min, clotting time 5.50 min, prothrombin time 11.9 sec with INR of 0.84.

She was taken for caesarean section under general anaesthesia, in view of severe preeclampsia with postdated pregnancy with IUGR. She delivered male baby weighing 2 kgs. Intraoperatively meconium stained liquor was found and baby was shifted to nursery for further observation. To control BP, IV Lobate infusion was started as antihypertensive agent and Magnesium sulphate was started as anticonvulsant agent. On ophthalmological examination, her visual acuity was 6/24 in right eye and counting fingers at 1 feet in left eye. Bedside dilated fundus examination revealed retinal detachment in both eyes, more in the left eye. Findings were confirmed on B scan, with left eye showing 'V' shaped echogenic membrane in its posterior chamber showing real time movements suggestive of retinal detachment. Right eye showed echogenic membrane on temporal side suggestive of retinal detachment. Lenses of both eyes were echogenic. Diagnosis of severe preeclampsia complicated with bilateral serous retinal detachment was made. Patient was prescribed Amlodipine tablet(5mg orally bd/ day) combined with tablet Lobate (100mg TDS) to control blood pressure. Patient was started on tapering dose of Prednisolone tablet (40mg once daily for three days, followed by 30 mg once daily for three day, followed by 20mg once daily for three days and lastly 10mg daily for three days.

On following the above mentioned treatment, vision in the right eye improved more than the left eye (visual acuity of right eye 6/18 and left eye counting fingers at 3feet). On repeat fundus examination, retinal detachment resolved completely in the right eye and retinal detachment decreased in left eye compared to previous examination, with slight detachment left temporally. Left eye also showed macular edema. Patient is coming for regular follow up in Ophthalmology OPD.

2. DISCUSSION

Preeclampsia usually occurs in the third trimester of pregnancy and is characterized by proteinuria, hypertension and generalized body oedema. The commonest ocular finding is severe arteriolar spasm, evidenced by either segmental or generalized constriction of the retinal arterioles reported in 70% of cases of toxemia^[7]. Retinal hemorrhages, edema and cotton wool spots secondary to arteriolar damage may follow. Areas of nonperfusion or arterial or venous occlusive disease may also develop^{[8],[9]}. Serous retinal detachment is rare complication of hypertensive disease in pregnancy. There are few reports in the literature as a cause of vision loss in preeclampsia. It was first described by von Graefe in 1855. The retinal detachment involves separation of the neurosensory retina from the pigmented retinal epithelium and it is one of the emergency states in ophthalmology. Many researches showed that in the pathogenesis of retinal detachment, an important role is played by peripheral retinal degenerations, retinal ruptures, vitreoretinal tractions and detachment of vitreous cavity. Also, retinal detachment cases are associated with myopic refraction and researches proved the existence of positive correlation between the frequency of retinal ruptures and the bulbar axis length^{[10],[11]}. The exact pathophysiology of serous neurosensory detachment in a case of preeclampsia is not known. The detachment is usually present in patients with severe preeclampsia (blood pressure >160/110 mmHg) or eclampsia, and they are usually observed in the absence of significant retinal vascular abnormalities and retinal ruptures. It is highly probable that changes in the fluid and ion-transport function of the retinal pigment epithelium

(RPE) underlying the neurosensory retina play an important role in the generation of subretinal fluid and consequent serous detachment. Under physiologic circumstances, the RPE is capable of pumping a great amount of fluid, and other metabolic products, out of the neuroepithelium. RPE function is greatly influenced by the choroidal circulation^[12]. In the preeclamptic state, vasoconstriction and hemorheological changes may decrease blood flow, leading to choroidal ischemia^[13]. Choroidal dysfunction, primarily choriocapillaris ischemia, is the underlying mechanism which leads to compromised fluid transport by the RPE, accumulation of subretinal fluid and consequent serous neurosensory detachment^[12]. The evaluation of the ophthalmic arterial flow by Doppler might offer new perspectives regarding the understanding of the physiopathology, the diagnosis and the quantification of the preeclamptic severity^[6]. In the severe forms of preeclampsia, the increase of the impedance of the orbital vessels has been noted^[14]. Specifically, the angiographic changes show that the retinal detachments in preeclampsia are due to the occlusion of choroidal arterioles and choriocapillaris. Following the resolution of retinal detachment is an alteration in the form of irregular focal areas of hyper- and hypopigmentation, which correspond to the choriocapillaris ischemic stroke (Elschnig spots)^[11].

3. CONCLUSION

Majority of patients who manifest serous retinal detachment during pregnancy have, with clinical management, complete recovery within weeks after delivery, not needing any surgical intervention. All patients of preeclampsia with ocular manifestation should undergo ophthalmological examination.

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