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BILATERAL EXUDATIVE RETINAL DETACHMENT IN A CASE OF ECLAMPSIA - A CASE REPORT

Ophthalomology

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ABSTRACT

Eclampsia is an extremely severe form of pre-eclampsia. It is characterized by new onset of focal or multifocal tonic-clonic convulsion or coma in pregnancy or postpartum, unrelated to other cerebral conditions. The most common visual symptom is scotomas, a transient perception of bright or black spots. This may progress to a sudden inability to focus, diplopia, blurred vision and in severe cases, complete blindness. Blindness is uncommon and is usually reversible with complete recovery following delivery. Blindness may be secondary to retinal ischaemia or infarction or vasogenic oedema or due to retinal detachment. Blindness due to retinal detachment is commonly unilateral and partial. Here we are reporting a case of bilateral and complete exudative retinal detachment in a case of antepartum eclampsia presenting with blindness.

KEYWORDS

retinal detachment, macular oedema, eclampsia, blindness

INTRODUCTION

Eclampsia is an extremely severe form of pre-eclampsia. It is characterized by new onset of focal or multifocal tonic-clonic convulsion or coma in pregnancy or postpartum, unrelated to other cerebral conditions such as epilepsy/cerebral arterial ischaemia and infarctions/intracranial haemorrhage or drug use, in patients with signs and symptoms of pre-eclampsia[1]. Visual disturbances are a common occurrence in cases of pre-eclampsia and are seen in 25% of women with pre-eclampsia and 50% of women with eclampsia[2]. Scotomata, blurred vision, or diplopia are common with severe preeclampsia and eclampsia. These usually improve with magnesium sulphate therapy and/or lowered blood pressure. Blindness is less common, is usually reversible, and may arise from three potential areas. These are the visual cortex of the occipital lobe, the lateral geniculate nuclei, and the retina. In the retina, pathological lesions may be ischemia, infarction, or detachment. Blindness from retinal lesions is caused either by serous retinal detachment or rarely by retinal infarction, which is termed Purtscher retinopathy. Retinal detachment occurs in less than 1% of patients with pre-eclampsia and in 10% of those with eclampsia[3]. Serous retinal detachment is usually unilateral and seldom causes total visual loss. In fact, asymptomatic serous retinal detachment is relatively common with preeclampsia. In most cases of eclampsia-associated blindness, visual acuity subsequently improves. However, if blindness is caused by retinal artery occlusion, vision may be permanently impaired. One such case is reported here, a case of bilateral and complete exudative retinal detachment in a case of antepartum eclampsia presenting with blindness.

CASE REPORT

History and examination- A 21-year-old primigravida with 8 months ANC referred from a private hospital in view of antepartum eclampsia, blurring of vision and referral letter also read that she was given loading dose of magnesium sulphate. Patient had complaints of headache and blurring of vision from the previous night and next day early in the morning patient had 2 episodes of generalized tonic clonic convulsion associated with up rolling of eyes, frothing. She was registered in a private hospital and had 3 antenatal visits. She had no previous high blood pressure recordings. No other major medical or surgical illness. On examination, she was conscious, oriented, tongue bite+, pedal oedema+ with blood pressure-160/110mmhg. Uterus size was 34 weeks, longitudinal lie, cephalic presentation, Foetal heart sounds 134/bpm, regular, contractions present. On per vaginal examination, 1cm dilated, minimally effaced, membranes absent, meconium-stained liquor, station high up, pelvis adequate. Rest of the systemic examination was normal. Urine albumin was 2+, deep tendon reflexes were brisk.

Ophthalmic examination-

On admission, the visual acuity was counting fingers at 1 meter in both the eyes which did not improve with pinhole. Anterior segment examination, intraocular pressure was normal in both the eyes. Dilated fundus examination with indirect ophthalmoscopy revealed- clear vitreous in both the eyes, normal optic disc, cup disc ratio, tortuous retinal vessels. The retina showed bilateral exudative retinal detachment extending to macula with associated bilateral macular oedema. Relatives explained about the risk and prognosis of the same.

Investigations and treatment- complete blood count, liver function tests, renal function tests, serum electrolytes were within normal limits. Antihypertensives given and inj magnesium sulphate was continued according to Pritchard regimen. Emergency caesarean section was done in view of meconium-stained liquor. Procedure uneventful.

Outcome and follow up- Blood pressure was not controlled, so second antihypertensive was added after which BP was 140/90mmhg. The vision got worsened on postoperative day-1, the patient could not count fingers even at one metre by both the eyes. On fundoscopy, increase in height of retinal detachment seen. B scan revealed bilateral temporal retinal detachment in both the eyes (fig no.1 and 2). Vitreo retinal surgeon's reference was taken for the same. Watchful expectancy was advised with optimum blood pressure control. On post operative day 3, the vision started to improve and fundoscopy on day 5 revealed significant decrease in macular oedema, extent and height of retinal detachment. On discharge patient had vision of finger counting at 5 metres and went home healthy. After 20 days of delivery, on follow up fundoscopy, there was complete resolution of retinal detachment without any residue and visual acuity was 6/6 in both the eyes.

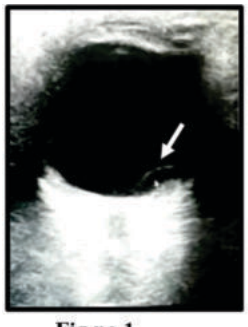

Fig no.1

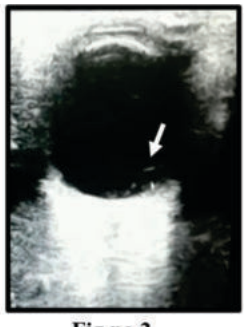

Fig no.2

Fig no. 1 B scan of the left eye showing temporal retinal detachment (arrow marking). Fig no.2 Similar findings were seen on the right eye.

DISCUSSION

Exudative retinal detachment is a rare ocular complication of preeclampsia, which was described first by Von Graefe in 1855. This complication occurs in less than 1% of patients with pre-eclampsia, and in 10% of patients with eclampsia[4]. ERD is defined as the presence of subretinal fluid or blood due to acute hypertension, inflammation, infection or neoplasm. This accumulation of fluid leads to the separation of the retinal pigmented epithelium (RPE) and the retinal photoreceptors causing visual loss. ERD tends to be bilateral, diagnosed postpartum, more frequent in primiparous and more common in women who undergo caesarean delivery; it tends to resolve

postpartum[5]. Even in the above case, retinal detachment is bilateral, she is primiparous and underwent caesarean delivery. Exudative retinal detachment in preeclampsia and eclampsia can occur both antepartum (as in our case) and post-partum causing blurred vision, metamorphopsia and significant reduction in visual acuity[6]. On fundoscopy it is characterized by focal, smooth, dome shaped elevation of retina[7]. Eclampsia is associated with vasoconstriction leading to choroidal ischaemia which affects retinal epithelium and leads to breakdown the blood retinal barrier, leakage of proteins and fluid from the choriocapillaries into the subretinal space leading to exudative retinal detachment. Retinal detachment secondary to choroidal ischaemia usually not accompanied by significant retinal vascular abnormalities[7]. Fundoscopy in our case also had no retinal vascular abnormalities. Ocular ultrasound has proved to be a useful tool for diagnosing most ophthalmic pathologies including retinal detachments, vitreous haemorrhage, papilledema, lens dislocation and globe rupture. The sensitivity and specificity of ultrasound for the diagnosis of retinal detachments were reported to be high[8]. ERD secondary to pre-eclampsia or eclampsia usually resolves without long term sequelae[9]. The resorption occurs within weeks after delivery due to the normalization of blood pressure. Underlying cause should be treated, delivery should be conducted for resolution of RD. In a study conducted by P. Vigil-De Gracia et al[5] all patients had complete recovery of vision with clinical management and surgery was unnecessary. Complete resolution of retinal detachment occurred within 2–12 weeks postpartum. The management of retinal detachment is not surgery, but termination of pregnancy after controlling blood pressure so that vision can be saved in the affected eye. Even in the case above, even though there was initial worsening, spontaneous resolution occurred eventually in the postpartum period, by day 20 there was complete resolution with normal visual acuity. The mode of delivery in patients with retinal detachment is studied by Landau et al[10] in 19 women with RD, found that vaginal delivery is safe in patients with RD and one more clinical report[7] also concluded that retinal detachment is not a contraindication for vaginal delivery, caesarean section can be considered in women for obstetric indication.

CONCLUSION

Exudative retinal detachment is an unusual complication of hypertensive disorder in pregnancy. Every patient with preeclampsia and eclampsia should undergo fundal examination irrespective of symptoms as it reveals important objective information concerning the disorder and the changes worsen with severity of hypertension. The clinician should have high index of suspicion of retinal complications in the patients of preeclampsia with visual symptoms. Control of BP, monitoring and treatment of underlying cause will lead to spontaneous resolution of retinal detachment. Follow up with fundoscopy to look for any sequelae is very crucial.

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