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BILATERAL SEROUS RETINAL DETACHMENT AND RETINOPATHY IN ECLAMPSIA WITH PRES: A CASE REPORT AND REVIEW OF THE LITERATURE

Ophthalomology

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ABSTRACT

Hypertensive disorders of pregnancy such as severe preeclampsia and eclampsia can cause ocular complications, including the rare occurrence of serous retinal detachment (SRD), resulting from choroidal ischemia and retinal pigment epithelium dysfunction. We report a 23-year-old primigravida at 32+4 weeks gestation who presented with sudden visual loss and generalized tonic–clonic seizures. Fundus examination showed bilateral exudative retinal detachment with hypertensive retinopathy changes, and OCT confirmed neurosensory detachment with subretinal fluid. MRI brain revealed posterior reversible encephalopathy syndrome (PRES). Following urgent delivery and systemic stabilization, the patient showed significant visual and retinal recovery within 10 days. This case emphasizes the importance of early diagnosis and multidisciplinary management for favourable visual outcomes.

KEYWORDS

preeclampsia, eclampsia, serous retinal detachment, hypertensive choroidopathy, posterior reversible encephalopathy syndrome (PRES)

INTRODUCTION

Hypertensive disorders of pregnancy, includes gestational hypertension, preeclampsia, and eclampsia, can produce significant ocular manifestations. These range from arteriolar narrowing and cotton-wool spots to macular edema and serous retinal detachment. SRD occurs in less than 1–3% of severe preeclampsia and eclampsia cases and results from choroidal ischemia and breakdown of the retinal pigment epithelium barrier. Visual symptoms in these patients may also arise from cortical involvement due to PRES.

CASE REPORT

A 23-year-old primigravida at 32+4 weeks gestation presented with sudden diminution of vision and recurrent generalized tonic–clonic seizures. Blood pressure was 170/110 mmHg and she was in altered mental sensorium on arrival. Emergency lower-segment cesarean section was performed and she was admitted to ICU. The patient required blood transfusion and supportive care.

Ophthalmic examination revealed normal anterior segment findings. Fundus examination demonstrated generalized arteriolar attenuation, multiple Roth's spots, pockets of subretinal fluid and inferior exudative retinal detachment bilaterally.

MRI brain revealed bilateral posterior fronto-parietal-occipital vasogenic edema consistent with posterior reversible encephalopathy syndrome. Laboratory investigations showed anemia, proteinuria and elevated LDH consistent with severe preeclampsia.

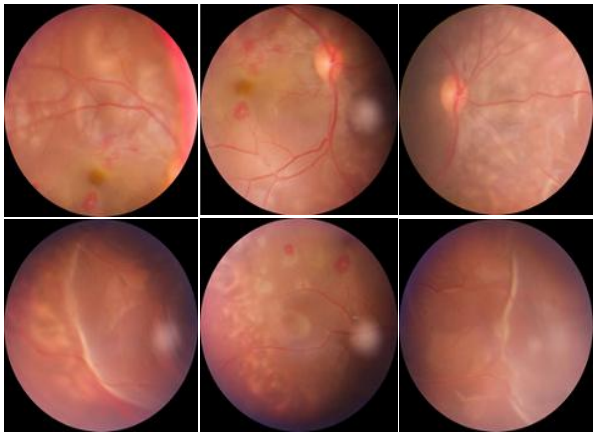

Figure 1. Fundus photograph of right eye-representative image showing Exudative retinal detachment inferiorly, subretinal fluid (retinal oedema), arteriolar attenuation and Roth's spots.

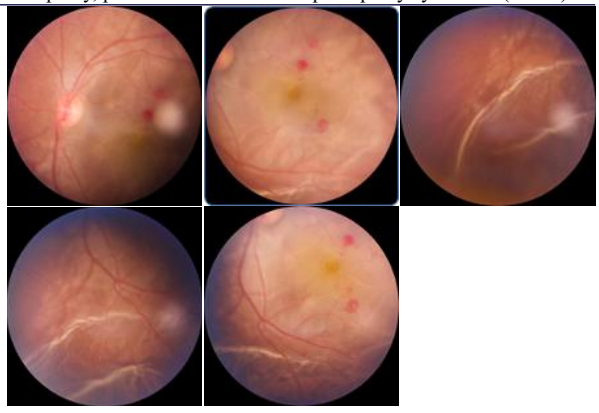

Figure 2. Fundus photograph of left eye-representative image showing Exudative retinal detachment inferiorly, subretinal fluid (retinal oedema), arteriolar attenuation and Roth's spots.

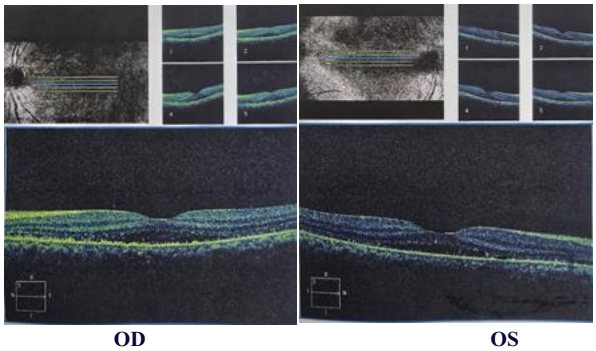

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Figure 3. OCT macula both eyes-showing neurosensory detachment with subretinal fluid

Management included urgent delivery and systemic stabilization with medication. Over the following days the patient showed progressive visual and systemic recovery and retinal findings resolved significantly within 10 days. Once patient was stable, OCT of both eyes were done that revealed neurosensory retinal detachment with subretinal fluid in both eyes

DISCUSSION

Retinopathy of toxaemia of pregnancy originates from placenta due to inadequate placental cytotrophoblastic invasion followed by widespread maternal endothelial dysfunction. Ocular complications in

hypertensive disorders of pregnancy occur due to this endothelial dysfunction, vasospasm and ischemia affecting retinal and choroidal circulation. Choroidal ischemia leads to disruption of the retinal pigment epithelium (outer blood retinal barrier) and accumulation of subretinal fluid resulting in serous retinal detachment.

PRES is characterized by vasogenic edema predominantly in the posterior cerebral regions and may manifest with seizures, headache and visual disturbances. In eclampsia, PRES frequently coexists and contributes to visual symptoms.

Diagnosis is aided by fundus examination and optical coherence tomography. Fluorescein angiography may demonstrate delayed choroidal perfusion and focal leakage. MRI is essential when neurological symptoms suggest PRES.

Management focuses primarily on systemic stabilization, control of hypertension and prompt delivery in severe preeclampsia. Most cases of SRD resolve spontaneously after delivery and normalization of blood pressure. Visual prognosis is generally excellent when timely treatment is provided.

CONCLUSION

Serous retinal detachment is a rare but important ocular manifestation of eclampsia. Early recognition and coordinated management between obstetrics, neurology and ophthalmology are critical. With prompt systemic treatment, the condition typically resolves with good visual recovery.

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