

Stage 3 Retinopathy of Prematurity in a Child with Lipemia Retinalis

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Abstract

We report a case of four month old child with low birth weight presenting with raised serum triglyceride (2793mg/dl) and serum cholesterol levels (1200mg/dl) with zone 2 stage 3 retinopathy of prematurity with lipemia retinalis. Though the regression of lipemia retinalis has been reported but there are no guidelines regarding treatment of ROP in such cases as this is an unusual finding.

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Keywords: Lipemia Retinalis; Retinopathy of Prematurity; Triglycerides

Introduction

Lipemia retinalis is a known manifestation of raised triglyceride level in infants. The fundus becomes salmon-colored, with creamy arteries and veins that can be distinguished by calibre only.¹ Hypertriglyceridemia can occur as a primary metabolic disorder or secondary to other diseases. Lipemia retinalis does not affect visual acuity; however, ERG changes have been described by Lu et al.¹ Retinopathy of prematurity is still a leading cause of childhood blindness in developing countries. We present a case of lipemia retinalis with stage 3 retinopathy which has not been described in literature till date.

Case History

A four month old child presented to the retinopathy of prematurity (ROP) clinic of our institute from a nearby district after neonatal intensive care unit (NICU) stay for 3 months. The female baby was born preterm at 30 weeks gestation at a rural hospital with birth weight of 540gms. The baby had respiratory distress and was kept on ventilator for 7 days followed by hood oxygen for 28 days in NICU. The patient also developed sepsis for which intravenous antibiotics were administered for 7 days. The patient was

discharged as condition after stable from the NICU and referred to PGIMS for further management. The baby presented to ROP clinic at postmenstrual age of 45 weeks and weight of 2050gms. The patient had a history of very poor weight gain and was not accepting feeds properly. Anterior segment examination of both eyes was normal. Fundus examination revealed salmon coloured vessels in both eyes and the distinction between arteries and veins could only be made on the basis of calibre of vessel. The patient also had stage 3 ROP in zone II in both the eyes with no plus disease. Lab investigations revealed raised serum triglyceride (2793mg/dl; normal reference value <150mg/dl) and raised serum cholesterol (1200mg/dl; normal reference value <200mg/dl). The ocular examination of the parents was normal and there was no history of consanguineous marriage in the family. The patient was referred to paediatrician and was switched to low fat skimmed milk and started on lipid lowering agents. The patient was being followed up closely meanwhile the Stage 3 ROP and lipemia retinalis did not regress even 6 weeks after starting the therapy. This child could not survive unfortunately as the parents did not have enough financial support for the treatment of the child.

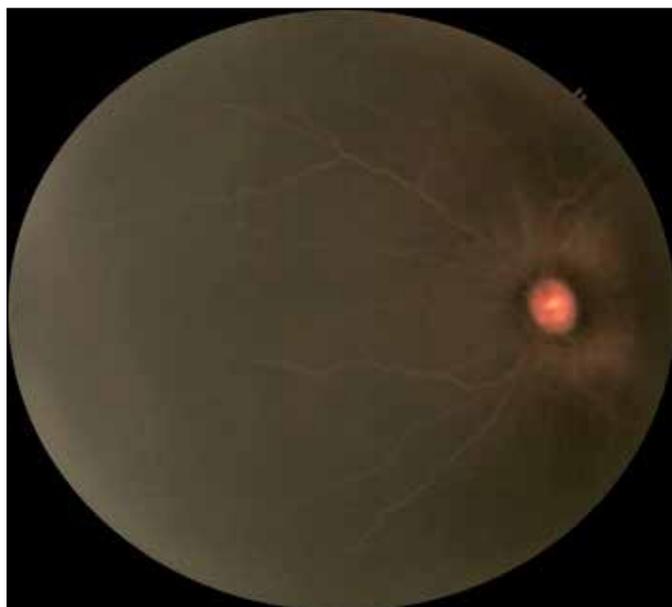


Figure 1: Fundus photo of right eye showing salmon pink appearance of retinal blood vessels with a dark background suggesting lipemia retinalis

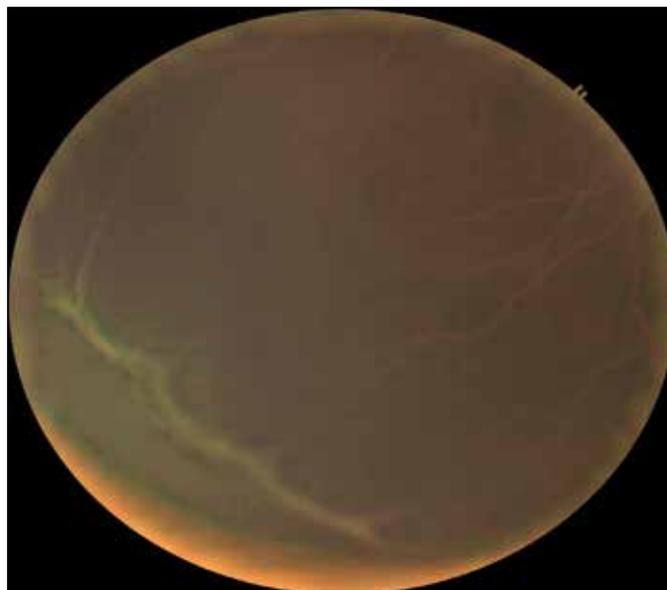


Figure 2: Fundus photo of temporal periphery of right eye showing fibrovascular proliferation at the edge of vascular and avascular retina suggestive of stage 3 retinopathy in zone 2 with salmon pink vessels

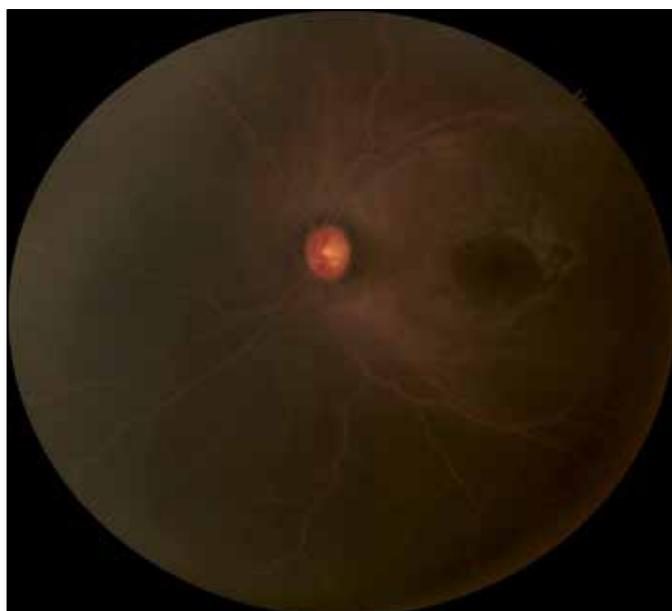


Figure 3: Fundus photo of right and left eye (respectively) showing salmon pink appearance of retinal blood vessels with a dark background suggesting lipemia retinalis

Discussion

Lipemia retinalis is non vision threatening manifestation of a lipid metabolism disorder. Multiple reports of lipemia retinalis have been published. In almost all cases lipemia retinalis resolves once the triglyceride levels return to normal.²⁻⁴ Three grades of lipemia retinalis have been described according to which our patient had grade III lipemia retinalis.⁵

As per our literature search, very few cases of lipemia retinalis have been reported in premature infants. A case of laser treated threshold ROP which later on developed lipemia retinalis has been reported.⁴ No case of lipemia retinalis with concurrent stage 3 ROP has been reported till date. There are no guidelines regarding management of these cases in the present literature.

Late presentation for ROP screening is still a major concern in developing countries due to lack of trained health care providers in rural areas who can visit NICU and screen babies. Our patient presented four months after birth with stage 3 ROP which also makes this case interesting as most of the ROP cases regress spontaneously by this time.⁶ This also emphasizes on the fact that early screening for ROP will lead to early diagnosis and management of these metabolic disorders. Although no retinal neuronal and vascular toxicity has been described in acute hypertriglyceridemia but in long standing cases like ours there might be some changes in the vascular morphology which makes diagnosis of plus disease and management of ROP challenging.

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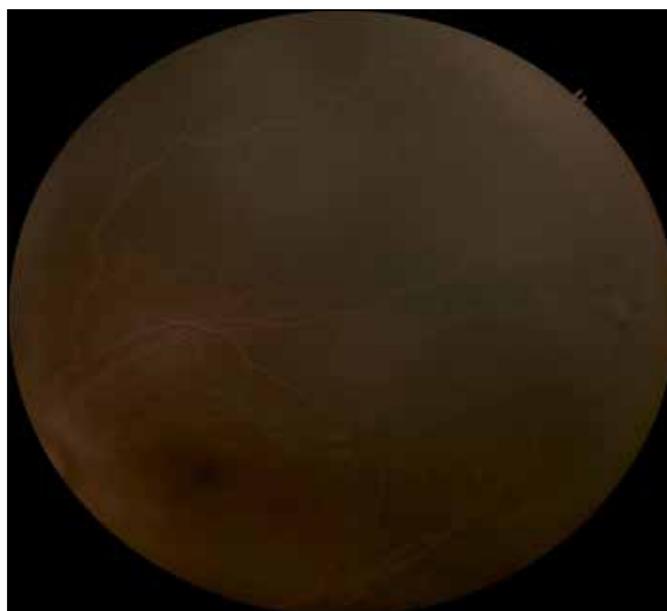


Figure 4: Fundus photo of left peripheral fundus showing lipemia retinalis but stage 3 could not be captured because of its presence in anterior zone 2

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