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Disc drag: Sequelae of spontaneously regressed retinopathy of prematurity

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Abstract
Purpose: A case of disc drag as a cicatricial sequelae of spontaneously regressed threshold ROP.
Case report: 8 months old male baby was brought for examination for Right eye strabismus noted since 1 month. Examination revealed disc drag with falciform fold from disc to ora with peripheral fibrous proliferation. Past history revealed preterm birth of baby at 28 weeks of gestation age with birth weight of 1170 grams. Old reports suggested Both Eyes Zone 2 Stage 3 threshold ROP with haemorrhage in right eye, at post menstrual age (PMA) of 31 weeks for which baby was advised laser. No treatment was taken for the same.
Conclusion: Timely screening, diagnosis & management of type 1 ETROP may help in preventing such cicatricial sequelae.

Keywords: Polythene utilization, adults

Introduction
Retinopathy of prematurity (ROP) is defined as abnormal neovascularization of the retina with different stages of the disease. [1] Disease can spontaneously regress in early stages, without leaving any sequelae. While, in late stages, Spontaneous regression of ROP is rare & uncommon, but often times can cause cicatricial sequelae like disc / macular drag, macular folds [2], peripheral vascular changes in the form of incompletely vascularised peripheral retina or telangiectasia vessels or vascular arcades with circumferential interconnection or abnormal branching of retinal vessel, and vitreoretinal interface changes like pigmentary changes, peripheral folds, vitreous membranes, and lattice-like degeneration [3]. Some residual posterior segment pathologies were reported by Smith & Tasman in approximately 88.4% of eyes with regressed ROP [4].

Case Report
8 month old male baby was brought by parents for ophthalmic evaluation for recently onset strabismus.
Birth history: A male baby boy born by normal vaginal delivery at gestation age of 28 weeks with birth weight of 1170 grams with risk factors : Anemia, On oxygen (CPAP) for 6 days. Baby was admitted in NICU for 2 weeks.

Previous Ophthalmic History
At PMA of 31 weeks baby was diagnosed to have BE Zone 2 stage 3 threshold ROP with right eye hemorrhage for which he was advised lasers. No treatment was taken by parents for the same. At age of 7 months, parents noted inward deviation of right eye for which they came for consultation.
Ophthalmic examination:
Examination revealed unremarkable anterior segment findings with well dilating pupils. Fundus examination revealed dragged disc [Figure 1a] towards temporal periphery with falciform folds & peripheral fibrous proliferation [Figure 1b] in Right eye, while left eye revealed normal disc & macula.

Discussion
ROP is a condition which occurs very early in the life of preterm infants, but it can have complications which last a life-time. Process of involution or evolution from vasoproliferative to fibrotic phase is responsible for spontaneous regression of ROP in many cases [1]. Main characteristics of involution are downgrading of staging and/or growth of

retinal vessels into a more peripheral zone [5]. A study by Prost [6] showed spontaneous regression in 85%, 56% & 25% in stage 1, stage 2 & stage 3 respectively. Although ROP usually involutes without progressing to unfavorable outcomes, residual cicatricial changes can be seen [7-9]. Even after the disease subsides, affected children may have an increased risk of certain eye (ocular) abnormalities. In stage 1 and stage 2 disease usually involutes without leaving any cicatricial sequlaes in majority of cases but in stage 3 the natural involution process is prolonged and usually leave cicatricle sequelae. Tell-tale signs of regression of disease can be seen in form of demarcation lines, pigmentary changes, retinal scarring, vitreo-retinal interface changes, disc/macular drag & may increase the risk of retinal detachment later in life. Affected children also have an increased incidence of nearsightedness (myopia); decreased clearness of vision (visual acuity) due to lack of a clear image falling on the retina (amblyopia); misalignment of the eyes (strabismus); unequal focusing ability of the two eyes (anisometropia).

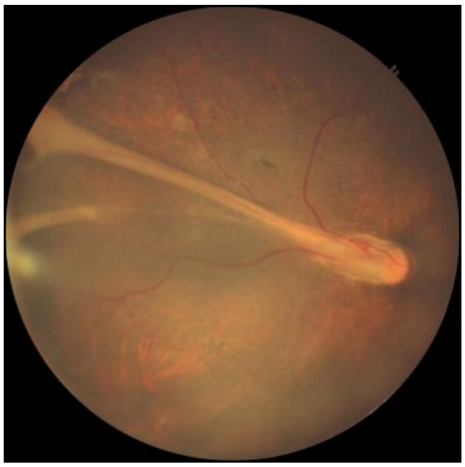

Fig 1a: Fundus image showing disc drag with falciform fold

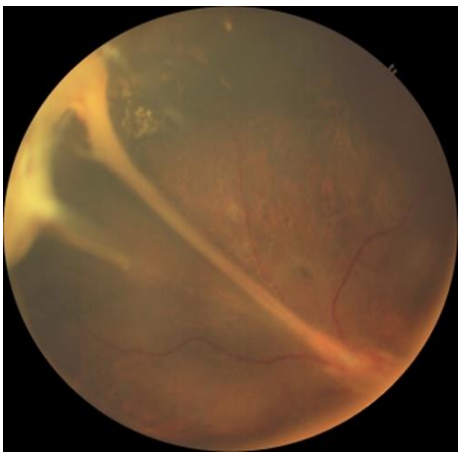

Fig 1b: Fundus image showing peripheral fibro-vasular traction

Conclusion

Although, Retinopathy of prematurity is a self-limiting disease, most stage 1 and 2 ROP and changes in zone III can spontaneously regress, ocular comorbidities are not uncommon. Preterm children developing any stage of ROP irrespective of whether treatment was needed or not should be followed up closely to detect and treat any refractive error or ocular comorbidities. Children with severe ROP need lifelong follow-up. Recognizing and treating ROP in a timely fashion is critical for achieving the best visual outcome. ROP and its sequelae can cause problems throughout a patient's life; therefore, long-term monitoring by an ophthalmologist is crucial.

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