Suprachoroidal collection of internal tamponading agents through a choroidal hole

Lingam Gopal, MS; Nishank Mittal, MD; Aditya Verma, MS

We report two cases of significantly large choroidal holes following penetrating trauma that led to suprachoroidal migration of internal tamponading agents during repair of retinal detachments with proliferative vitreoretinopathy secondary to penetrating trauma. In the first case, choroidal hole was a direct result of the injury and was identified immediately after vitreoretinal surgery which was done for traumatic retinal detachment with hemorrhagic choroidal detachment. In the second case, the hole occurred over a period of several months after the repair of traumatic retinal detachment with silicone oil tamponade. This was attributed to progressive fibrosis exerting traction on the bare choroid/retinal pigment epithelium. Choroidal hole significant enough to cause suprachoroidal migration of internal tamponading agents is a very rare complication seen in eyes with posttraumatic retinal detachment with proliferative vitreoretinopathy.

Key words: Choroidal hole, perfluorocarbon liquids, proliferative vitreoretinopathy, silicone oil, traumatic retinal detachment

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Choroidal injury can occur following penetrating trauma which can result in serous or hemorrhagic choroidal detachment. The sclerochoroidal perforation site is usually associated with considerable fibrosis. However, a patent choroidal hole leading to suprachoroidal collection of internal tamponading agents is a unique event. Our search of literature using the Medline database failed to reveal a similar report. We report two such cases.

Case Reports

Case 1
A 36-year-old male presented 20 days after scleral repair for ruptured globe (left eye) following a traffic accident. Examination at this stage revealed hyphema, aniridia, aphakia and vitreous hemorrhage. Ultrasonography revealed hemorrhagic choroidal detachment and retinal detachment. He underwent pars plana vitrectomy and suprachoroidal blood drainage next day. During surgery, the retina was found bunched up with significant membrane formation on both sides of the retina. After membrane peeling and 360-degree retinectomy, the retina could be attached using perfluorocarbon liquids (PFCL). Perfluorocarbon liquids-silicone oil exchange was done.

Shallow choroidal detachment persisted in the periphery, which was attributed to residual choroidal hemorrhage.

On the first postoperative day, a large bubble of PFCL was seen on the retinal surface. He was taken up for resurgery in seven days time and the bubble was removed while injecting additional silicon oil. One day later, another large bubble of PFCL was noted on the retinal surface. At this stage, the choroidal hole was prominently made out with increased extent of choroidal detachment in that quadrant. It was realized that silicone oil and PFCL were trapped in the suprachoroidal space. He was again taken up for surgery two weeks later. Silicone oil and PFCL trapped in the suprachoroidal space were drained externally using a relatively posteriorly placed sclerotomy. The vitreous cavity was rejetected with silicone oil. Eighteen months postoperatively the retina remained attached with recovery of 20/400 vision. However, the choroidal hole remained patent [Fig. 1]. The eye is still soft and hence silicone oil has not been removed.

Case 2
A seven-year-old girl presented with a four-day-old penetrating injury (with needle) and endophthalmitis in her right eye. She underwent emergency lensectomy and vitrectomy along with intravitreal injection of antibiotics. The infection was gradually controlled after repeated intravitreal injection of antibiotics based on culture reports. She was seen to have developed rheumatogenous retinal detachment 10 days after the injury. There was choroidal detachment and significant proliferative vitreoretinopathy. During resurgery, a 360-degree relaxing retinectomy had to be done in view of the incarceration of the retina in the wound. Perfluorocarbon liquid was used to settle the retina and was replaced with 1000 centistokes silicone oil. Ten days postoperatively, a small bubble of PFCL was noted in the vitreous cavity. At this stage, her best-corrected vision was 20/60. Shallow choroidal detachment was also noted with a relatively soft eye but with attached retina. Progressive recurrent fibrosis occurred in the periphery, exerting traction on the retina as well as on the bare choroid/retinal pigment epithelium (RPE). Approximately six months after the first surgery, it was decided to reoperate, in view of the progressive drop in vision due to recurrent fibrosis and tractional retinal detachment. The silicone oil was removed and membrane peeling was done and the fibrosed edge of the previous retinectomy was excised. Perfluorocarbon liquid was used to flatten the retina. It was then noted that PFCL was entering the suprachoroidal space through a choroidal hole located in the area of bare choroid/RPE. Although external pressure at this site brought the PFCL into the vitreous cavity, the space could not be totally evacuated. Similarly, silicone oil, which was exchanged with PFCL, also entered this space. Four months from this surgery, she maintained 20/100 best-corrected vision. The eye was soft with band keratopathy. The retina was attached. The choroidal hole remained open with a pocket of choroidal detachment noted near the hole [Fig. 2]. The silicone oil was seen filling the vitreous cavity and extending into the pocket of choroidal detachment.

Discussion
Choroidal involvement in cases of penetrating trauma to eyes can manifest as benign choroidal thickening, suprachoroidal hematoma, choroidal detachment, suprachoroidal hemorrhage,
A case of Goldenhar-Gorlin syndrome with unusual association of hypoplastic thumb

Amitava Das, MS; Biswarup Ray, MS; Debabrata Das, MS; Somnath Das, MS

Department of Ophthalmology, RG Kar Medical College and Hospital, 1, Khudiram Bose Sarani, Kolkata - 700 004, India

Correspondence to Dr. Amitava Das, CF 68, Sector - I, Salt Lake City, Kolkata - 700 064, India. E-mail: debabrata_dr@yahoo.com

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A case of Goldenhar-Gorlin syndrome in a seven-month-old male infant presented with the features of epibulbar dermoid, microtia and hemifacial microsomia associated with thumb defect. The dermoid was bilateral and microtia was unilateral. Preauricular appendages and pits were double and single respectively on both the sides. Hemifacial microsomia was unilateral and was associated with cleft lip, macrostomia, dental misalignment, large tongue and high arched palate. The association of hypoplastic thumb with Goldenhar-Gorlin syndrome has not been documented in the past.

Key words: Epibulbar dermoid, Goldenhar-Gorlin syndrome, hemifacial microsomia, hypoplastic thumb, microtia

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