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A SIMPLIFIED SCLEROCORNEAL TUNNEL APPROACH IN PERFORMING PEDIATRIC CATARACT SURGERY

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Introduction:

The corneal and scleral rigidity is lower in children than in adults.[1,2] Therefore, when the cataract surgery is performed in child age groups, the incisions should be closed with sutures. These sutures could be absorbable or nonabsorbable.[3] The nonabsorbable sutures, such as nylon, are more effective in closing the corneal incisions and produce less ocular irritation, but after a while, it requires removal, which should be performed under general anesthesia again.[3,4,5,6] While the absorbable ones like Vicryl are not as effective as nonabsorbable ones in closing the corneal incisions.[4] They can also induce ocular irritation, giant papillary conjunctivitis, and mucous discharge.

In this technique, we performed a peritomy on the temporal side. We carried out a long sclerocorneal tunnel for both side port incisions and the main incision. From these incisions, we sutured only the side port incisions with 8/0 Vicryl.

Materials and methods:

This case series research received approval from the institutional ethical committee and follows the guidelines of the Declaration of Helsinki. Written informed consent was taken from the patient's legal guardian for the surgery. Fifty-two eyes of thirty patients with pediatric cataracts were included in the study. The operations were performed under general anesthesia. The operation times were fully recorded, started from gripping the eye with forceps to the conjunctival suturing at the end of the surgery. The intraoperative complications such as damage to the iris, hyphema, anterior capsular extension to the periphery, and ruptured posterior capsule, also complications such as tilting and dislocation of the intraocular lens (IOL) were recorded. The patients were examined on the 1st postoperative day, 1st week, 2nd week, 1st month, 3rd month, and the 6th month. The cooperated patients had been examined with the slit lamp, but the uncooperative ones were examined with the torch. On the 1st postoperative day, the anterior chamber reaction, hypotonia, ocular infection, hyphema, anterior chamber narrowing, IOL position, and conjunctival sutures were checked.

In the 1st postoperative week and after that, the refraction was performed with autorefractometry for those who cooperated, but retinoscope was used for the noncooperative children. The intraocular pressure was digitally assessed and performed by cleaning both hands with disinfectant, followed by applying both index fingers of both hands over the eyelid of the operated eye, nasally and temporally for each eye, while the eye is closed. One index finger was utilized to press the nasal part whereas at the temporal part, the other index finger was used as a receiver for the coming pressure on the nasal side. Thus, the tonicity of the eyeball was assessed, from the 1st postoperative day, and those suspected to have high intraocular pressure were examined under general anesthesia.

Results:

This study includes 52 eyes of 30 patients. Twenty-two patients had bilateral, and 8 had unilateral cataracts. Moreover, 14 of the patients were younger than 24 months, and 16 of them were older than 24 months. All those over 24 months were implanted in the capsular bag IOL.

Only in one of the patients, while performing anterior vitrectorhexis, an iatrogenic iris defect and mild hyphema on the pupil margin occur. The mean operation time was 28 ± 6 min. None of the patients underwent general anesthesia for suture-related complications or re-suturing. The average astigmatism value of the children in the 1st postoperative week was 1.5 ± 1.2 D (0.5–4.0). However, in the 3rd postoperative month, the mean astigmatism value was 0.8 ± 0.5 D (0.5–1.5).

Conclusions:

Our technique strongly concludes that it is effective, reliable, safe in performing lensectomy, IOL implantation, and anterior vitrectomy in pediatric cataracts with centrally positioned IOL.

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