Positional Change of Lower Eyelid After Surgical Correction of Congenital Ptosis in the Korean Population

We have found that some patients with congenital ptosis have preoperative lower scleral show that is diminished after ptosis surgery (Figure 1). This quantitative study investigates the positional change in the lower eyelid after surgery to correct congenital ptosis.

Methods. The local institutional review board approved this study. Written informed consent was obtained from all the participants, including parents or legal guardians.

Medical records and clinical photographs of 55 Korean patients with congenital ptosis who underwent corrective surgery were reviewed. Patients with the following conditions were excluded: neuromuscular diseases, blepharophimosis, strabismus, previous and concomitant eyelid surgery, and less than 6 months of follow-up.

The position of the lower eyelid was assessed by the maximal perpendicular distance (PDL) from the line between the medial and lateral canthi to the margin of the lower eyelid (Figure 2) and by the relative location (RLL) defined as the ratio of the PDL to the length of the line between the medial and lateral canthi. It was not assessed by the margin reflex distance 2 because it may easily vary with gaze, it can be inaccurately measured in young children, and the drooped upper eyelid often obscures the pupillary light reflex. The PDL and RLL of each eye were compared before and 6 months after surgery.

Results. Lower scleral show was found in 7 ptotic eyes (8.9%) preoperatively and disappeared in all but 1 eye postoperatively. Patient characteristics and postoperative changes in the PDL and RLL are shown in the Table.

The PDL and RLL significantly decreased 6 months after surgery in the frontalis suspension group (P < .001

Figure 1. Clinical photographs of patients with congenital ptosis (A, C, E, and G). Lower eyelid elevation and disappearance of scleral show were noted after surgery (B, D, and F) and upper eyelid lift (H). The levels of the pupillary light reflex (a), medial canthus (b), and lower eyelid margin (c) are shown (G and H).
They showed significant decrease in some bilateral ptosis cases ($P = .001$ for both in bilateral frontalis suspension surgery, $P = .09$ for change in PDL and $P = .11$ for change in RLL in the eye with frontalis suspension surgery in patients who underwent frontalis suspension in one eye and levator resection in the other) but not in unilateral cases.

**Comment.** More than 80% of cases with preoperative lower scleral show improved after surgery. In the frontalis suspension group, the PDL and RLL decreased significantly 6 months after surgery, indicating postoperative lower eyelid elevation.

One possible mechanism for these results is the compensatory contraction of the lower eyelid retractor for drooped upper eyelid as suggested by Matsuo et al. and Sultana et al., who demonstrated excessive contraction of the levator muscle in aponeurotic ptosis. In congenital ptosis, there could also be excessive contraction of the levator muscle followed by compensatory contraction of the lower eyelid retractor and postoperative release.

Postoperative change in the lower eyelid position was significant in bilateral ptosis compared with unilateral ptosis. The compensatory contraction would be more pronounced in bilateral ptosis because patients with unilat-
eral ptosis can see well in the nonptotic eye and do not have the stimulation to lift the ptotic eyelid.3

However, the influence of compensatory contraction of the levator–lower eyelid retractor may be limited in congenital ptosis because of improper or faulty development of the levator muscle.4 Another possible mechanism is the mechanical effect of upper eyelid lift during ptosis surgery. Upper eyelid lift can lead to lower eyelid elevation due to the circumferential structure of the orbicularis muscle and changeability of the canthi position.5

These 2 mechanisms may be operative at the same time. Compensatory contraction may be stronger in patients with poorer levator function, and the larger amount of intraoperative upper eyelid lift may result in greater elevation of the lower eyelid.

In conclusion, this study shows lower eyelid elevation after surgical correction of congenital ptosis, especially after frontalis suspension or in bilateral ptosis. Surgeons should inform patients that lower eyelids can displace upward after ptosis surgery and that preoperative lower scleral show can be diminished postoperatively.

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Nonarteritic Anterior Ischemic Optic Neuropathy in a 35-Year-Old Postpartum Woman With Recent Preeclampsia

vision loss due to optic neuropathy in the intermediate postpartum period can have a variety of causes, including blood loss1 and anesthetic complications.2 We describe a 35-year-old woman with resolving preeclampsia who had sudden unilateral vision loss after giving birth and had a clinical presentation consistent with nonarteritic anterior ischemic optic neuropathy (NAION).

Report of a Case. A 35-year-old postpartum woman had sudden loss of vision in her right eye, noted approximately 8 days after vaginal delivery of her full-term baby. The patient had a history of preeclampsia (hypertension, protein in urine 452 mg/24 hours, and leg swelling) diagnosed 2 weeks before delivery. She had continued problems with blood pressure control since delivery, and she also reported severe headache prior to vision loss. There was no history of hypertension, smoking, or medication use. There was no significant ocular history. There was a history of gestational diabetes mellitus for the last 2 months of pregnancy. On initial examination, her blood pressure was 130/82 mm Hg and her weight was 95 kg. Her visual acuity was 20/200 OD and 20/15 OS. There was a relative afferent pupillary defect in the right eye. Ophthalmoscope revealed superior segmental disc edema with some early pallor in the right eye and a normal disc (with a small cup-disc ratio) in the left eye (Figure 1). Results of the remainder of her ocular examination were normal. Findings on computed tomography and magnetic resonance imaging of the brain and orbits were normal. Results of the laboratory workup including complete blood cell count, erythrocyte sedimentation rate, and C-reactive protein level were normal and she was negative for antinuclear antibodies. Humphrey automated visual field testing (30-2 Sita Fast) demonstrated an inferior altitudinal defect in the right eye and a normal field in the left eye (Figure 1). The working diagnosis was NAION. On follow-up approximately 6 weeks after her initial visit, visual acuity was 20/30 OD and 20/20 OS. Findings of the remainder of the examination were stable except for the development of some segmental superior disc pallor in the right eye (Figure 2). Results of repeated automated visual field testing were also unchanged (Figure 2).

Comment. Preeclampsia usually has onset after the 20th week of pregnancy and is characterized by blood pressure higher than 140/90 mm Hg and a urine protein level of 300 mg/24 hours. It has been associated with varied visual disturbances and transient and permanent vision loss. Pathological findings related to vision loss include retinal vessel spasm and occlusion, choroidal infarction or choroidal effusions leading to serous retinal detachment, and focal edema and hemorrhages in the occipital cortex.3 In addition, optic disc edema may arise due to intracranial hypertension, systemic hypertension, or anterior ischemic optic neuropathy.