

Refractive changes after ptosis surgery

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Abstract

Objective: There were two objectives, first, to analyze the refractive change in children with congenital ptosis who have undergone levator resection/ sling surgery during the period of study. And second, to find out the relationship between preoperative severity of ptosis and postoperative magnitude of change in refractive error.

Study Design: Prospective follow-up study design was used.

Methodology: Twenty patients with isolated congenital ptosis were taken through convenient sampling who fit the inclusion criteria. Two techniques were used for the surgery- sling and levator resection. Preoperative and postoperative visual acuity was measured by age-appropriate methods, VA was then converted to LOGMAR. Pre-op and post-op eyelid measurements were done. Refractive error was measured before and after surgery for both eyes by cycloplegic refraction.

Results: There was no change observed in spherical refractive error of ptotic eye before & after the surgery as well as in non-ptotic eye baseline & after 3 months. Mean myopic spherical change of non ptotic eye was 0.41D ($p > 0.05$) while ptotic eye was -0.37D ($p > 0.05$), mean hyperopic change in non-ptotic eye was 0.16D ($p > 0.05$) while ptotic eye was 0.13D ($p > 0.05$) and those with emmetropia non-ptotic eye mean was -0.15D ($p > 0.05$) & ptotic eye was 0.05D ($p > 0.05$). A statistically significant change was noticed in cylindrical refractive error of ptotic eye and an increase in WTR astigmatism was observed after surgery. Change in cylinder in patients with WTR astigmatism in nonptotic eye was mean 0.15D ($p > 0.05$) while in ptotic eye -0.47D ($p < 0.05$) and those with emmetropia in non-ptotic eye was -0.13D ($p > 0.05$) and ptotic eye mean -0.50D ($p < 0.05$). There was no relationship found between pre-op severity of ptosis with post-op magnitude of change in astigmatism.

Conclusion It is demonstrated that not only ptosis itself but also the surgical correction of ptosis can change astigmatic refractive error so post-op cyclorefraction is necessary in children to correct refractive error in order to prevent amblyopia and improve visual performance of patient postoperatively. *Al-Shifa Journal of Ophthalmology* 2016; 12(1): 36-44. © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.
