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039 Medial rectus insertion site in surgical candidate children with esotropia. Moustafa S. Abdelhafez, Sameh Sabahi, Mahmoud M. Abdelhafez, Doaa Elamrousy

Introduction: To study the site of medial rectus (MR) insertion in surgical candidate children with esotropia and its relation to the angle of deviation.

Methods: A prospective study that had been done on 110 children scheduled for surgical management of esotropia. We divided them, according to age, into three groups: <2 years, 2-6 years, and 6-12 years. We documented the angle of deviation. During surgery we measured the distance between MR insertion and limbus using the caliper viewing by microscope. We created similar control age groups of non-strabismus 98 children. They were admitted to operating theatre for other reasons. After written permission we measured MR insertion site.

Results: The mean insertion site in control group 1 (age below 2) was 4.33 ± 0.39. While it was significantly less in patient group 1 (P < 0.001), 3.81 ± 0.48 and 3.78 ± 0.56 for right and left eyes. For group 2, it was 4.63 ± 0.48 in control group. While it was significantly less in esotropia (P < 0.001), 3.99 ± 0.38 and 3.98 ± 0.40 for right and left eye. For group 3 (6-12 years), it was 5.27 ± 0.24 in control and 4.91 ± 0.46 and 4.26 ± 0.47 in esotropia (P < 0.001). There was significant negative correlation between angle of deviation and MR insertion site (P < 0.001) in all age group patients.

Conclusion/Relevance: The medial rectus is significantly closer to limbus in children with esotropia than nonstrabismus. Also, there is negative correlation between MR insertion site and severity of esotropia.

040 The incidence and characteristics of pediatric traumatic hyphema presenting during the COVID-19 pandemic. Olufemi E. Adams, Kristine M. Nachbor, Sasha Strul

Introduction: To analyze the clinical and epidemiologic trends of pediatric traumatic hyphema presenting during the COVID-19 pandemic.

Methods: A single-center retrospective cohort study of all pediatric patients aged 21 or under diagnosed with traumatic hyphema. The incidence of traumatic hyphema presenting during the COVID-19 pandemic time periods of heavy restrictions (group 1) and loosened restrictions (group 2) were compared with similar control time periods pre-pandemic (groups 3 and 4, resp.). Patients’ demographics, BCVA, IOP, need for IOP-lowering therapy, hyphema characteristics, and complications were subsequently analyzed.

Results: A total of 23 cases were identified in the aforementioned time-period, with 5 patients in group 1, 6 in group 2, 11 in group 3, and 1 in group 4. The overall incidence of traumatic hyphema was 0.63 cases-per-month. For groups 1-4 the incidence was 0.35, 1.55, 0.77, and 0.26 respectively. During the COVID-19 pandemic, the incidence rate ratio (IRR) was 4.44 (95% CI: 1.35, 14.54, p = < 0.01 when the loosened (group 2) and the heavy (group 1) restrictions time-period were compared. Group 1 vs. group 3 IRR was 0.45 (95% CI, 0.16-1.31; P = 0.13). Group 2 versus group 4 IRR was 6.00 (95% CI, 0.72-49.84; P = 0.06).

Conclusion/Relevance: There was an increased incidence of traumatic hyphemas following loosened COVID-19 restrictions. While the cause for this is unknown, prevention is possible through education on proper supervision, age-appropriate toys, and use of safety glasses. The public should be made aware of the importance of these measures.

041 Association of initial amblyopia presentation with neighborhood quality. Jean A. Adomfeh, Ryan N. Chinn, David G. Hunter, Benjamin G. Jastrzembski, Isdin Oke

Introduction: Racial and socioeconomic disparities in amblyopia have been previously reported (Repka, 2020); we sought to investigate this finding using the Child Opportunity Index (COI), a metric of neighborhood quality for child welfare (Acevedo-Garcia, 2014).

Methods: A cross-sectional study was conducted using data from the Boston Amblyopia Study, a registry of children with amblyopia diagnosed between 2010 and 2014 at a metropolitan pediatric hospital. We included children 2-12 years of age and determined nationally normalized COI scores based on residential address. We analyzed the association of visual acuity at presentation with COI scores using linear mixed effect models adjusting for sex, race, ethnicity, and insurance status.

Results: 1,132 subjects met inclusion criteria of which 30% were non-White and 44% had public insurance. 13% of children lived in very low opportunity neighborhoods and 46% of children lived in very high opportunity neighborhoods. After adjusting for individual-level factors, there was a change in visual acuity of the better seeing eye (β = −0.0090; 95% CI, −0.0176 to −0.0003) and worse-seeing eye (β = −0.0074; 95% CI, −0.0209 to 0.0062) per 20 unit increase in COI: approximately a two-letter decrease in visual acuity from highest opportunity neighborhoods to lowest.

Conclusion/Relevance: Amblyopic children residing in neighborhoods with lower opportunity tend to present with lower visual acuity after adjusting for individual-level socioeconomic factors. The disparate number of subjects in very high opportunity neighborhoods diminished the power to query socioeconomic disparities in amblyopia and underscores the need for diverse cohorts in the future.

042 Conventional surgery versus botulinum toxin injection for the management of esotropia in children with down syndrome. Taghreed Alnajjar, Sesma Gorka, Shatha Alfreihi

Purpose: To compare the success rate of strabismus surgery versus botulinum toxin injection (BTX) in the management of esotropia (ET) in individuals with Down syndrome (DS).

Methods: We designed a multicenter retrospective cohort study. We included all consecutive DS patients with ET between 2014 and 2021 in King Khaled Eye Specialist Hospital, King Abdullah Specialist Children Hospital, and King Abdullah International Medical Research Center in Riyadh. We divided the patients into two groups according to the type of intervention. Success was defined as the angle of deviation within 10° in the last visit.

Results: Fifty-three patients met our inclusion criteria: 23 patients in the surgical group and 30 in the BTX group. There was no difference between age, sex, diagnosis, spherical equivalent, and preoperative angle of deviation. Before the intervention, the mean angle of deviation was 37.39° ± 15.06° in the surgical group and 38.33° ± 12.20° in the BTX group, respectively (P = 0.802). The mean postoperative angle of deviation was 9.17° ± 12.62° and 19.77° ± 13.72° in the surgical group and BTX group, respectively.