

eyes. There is paucity of literature in children, for whom significant benefits can be derived by operating both eyes under the same anesthesia.

Methods: Retrospective analysis of children who underwent SBCS from 2008-2018 was performed. Procedures were consented to by parents following detailed discussion about risks/benefits of surgery in two sessions versus one. Data on outcomes and complications (ophthalmological, anesthesia related) up to 8 weeks postoperatively is presented.

Results: Thirty-seven patients (74 eyes) (mean age, 4.4 months) (21F:16M) underwent bilateral lens aspiration with anterior vitrectomy (6 with, 68 without IOL). Average ASA score was 2.1. 19 were admitted for observation post-surgery (per anesthesia protocol). There were no devastating anesthesia-related complications; however, one with aortic stenosis needed phenylephrine support, one was managed with re-intubation (laryngeal spasm post-op) with no further complications. There were an average of 3.89 follow-up visits (in 8 weeks postoperative period) occurred. One patient had fibrinous reaction, and another glaucoma (needing goniotomy) in both eyes associated with Wolfram and Lowe syndromes, respectively. One eye had epithelial defect (resolved spontaneously). There was no endophthalmitis.

Discussion: SBCS in children have several potential advantages including avoidance of multiple anaesthesia, faster visual rehabilitation, reduced postoperative follow-up visits, cost savings to parents and healthcare systems.

Conclusions: Outcomes and complication rates of SBCS in this study were comparable to reported literature for unilateral procedures. SBCS may be offered to parents as a viable option; however, studies with larger sample sizes are desirable.

009 Validation of the G-ROP modified retinopathy of prematurity screening criteria. Gil Binenbaum, Lauren A. Tomlinson, Alejandra de Alba Campomanes, Edward Bell, Pamela Donohue, David Morrison, Graham Quinn, Michael X. Repka, David Rogers, Michael Yang, Yinxi Yu, Gui-shuang Yang

Introduction: The Postnatal Growth and ROP Study (G-ROP-1) developed modified screening criteria with 100% sensitivity for ETROP type-1 ROP and 30% reduction of infants requiring examinations in a retrospective development cohort of 7,483 infants from 29 North American hospitals in 2006-2012. Infants meeting one or more criteria undergo examinations: GA <28 weeks; or BW <1051 g; or weight gain <120 g, <180 g, or <170 g during ages 10-19, 20-29, or 30-39 days, respectively; or hydrocephalus. We evaluated the generalizability of the G-ROP screening criteria in a new cohort of at-risk infants.

Methods: We conducted a prospective validation study (G-ROP-2) of infants examined at 41 North American hospitals (25 G-ROP-1 hospitals, 16 new hospitals) in 2015-2017. Primary outcomes were sensitivity of G-ROP criteria for type-1 ROP and reduction in infants meeting criteria to receive examinations.

Results: A total of 3,980 infants were studied (median BW, 1072 g [range, 350-2190], GA, 28 weeks [22-38]). In this new cohort, the G-ROP criteria correctly predicted 219/219 type 1 (sensitivity, 100%; 95% CI, 98.3%-100%) and 253/256 treated cases, reducing infants undergoing screening by 36% (95% CI, 34%-37%). In a combined G-ROP-1/G-ROP-2 cohort of 11,463 infants, the criteria predicted 677/677 type 1 (100%; 99.4%-100%) and 767/770 treated cases, reducing infants meeting criteria by 33% (32%-34%); while current criteria (BW <1501 g or GA ≤30 weeks 0 days without subjective "poor

postnatal course" criterion) predicted 674/677 type 1 (99.6%; 98.7-99.8%) and 766/770 treated cases.

Discussion: These large cohorts provide evidence-based screening criteria that have higher sensitivity and specificity (less infants receive examinations) for type 1 ROP than currently recommended guidelines.

Conclusions: The G-ROP modified screening criteria were generalizable upon validation and could be used clinically to greatly reduce the number of infants requiring examinations.

010 Baseline and clinical factors associated with response to binocular amblyopia treatment. Eileen E. Birch, Reed M. Jost, Krista R. Kelly, Joel N. Leffler, Lori Dao, Cynthia L. Beauchamp

Introduction: We previously reported results from our primary cohort (n = 28) enrolled in a randomized clinical trial (NCT02365090) that reported binocular amblyopia treatment was effective in treating childhood amblyopia and more efficacious than patching (Kelly, Jost et al JAMA Ophthalmol 2016). Completion of enrollment into our pre-planned secondary cohort combined with the primary cohort (n = 48), has now provided sufficient power to determine whether there exist baseline and/or clinical factors that are predictive of response to binocular treatment.

Methods: 48 amblyopic children (4-10 years) were randomly assigned binocular game or patching treatment at home. The primary outcome was change in amblyopic eye best-corrected visual acuity (AE BCVA) at the 2-week visit. Change in stereoacuity was a secondary outcome. Baseline factors: age at enrollment, AE BCVA, stereoacuity, suppression. Clinical factors: etiology, age at diagnosis, prior treatment, baseline alignment.

Results: AE BCVA improvement was greater with the binocular game than patching (mean ± SD = 0.14 ± 0.08 vs 0.07 ± 0.09 logMAR; $t = 3.00$, $P = 0.004$). Improvement from baseline was significant for the binocular game (95% CI, 0.11-0.17 logMAR) and patching (95% CI: 0.03-0.10 logMAR). Stereoacuity improvement was greater with the binocular game than patching (0.06 ± -0.18 vs -0.06 ± 0.23 log arc-sec; $t = 2.07$, $P = 0.04$). Only one factor was associated with AE BCVA change with game treatment; orthotropic children had greater improvement than children with 2-4pd esotropia (0.17 ± 0.07 vs 0.09 ± 0.05 logMAR; $t = 2.37$, $P = 0.03$). In addition, change in AE BCVA was significantly correlated with hours of game play ($r = 0.67$; $P < 0.0001$).

Discussion: Binocular amblyopia treatment was effective in treating childhood amblyopia, especially among orthotropic children who had more game play time.

Conclusions: Orthotropia and adherence were associated with binocular amblyopia treatment success.

011 Outcomes of bilateral cataracts removed in infants 1 to 7 months of age concurrent with the Infant Aphakia Treatment Study.

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Introduction: This study evaluates outcomes of bilateral cataract surgery in infants ages 1 to 7 months performed by Infant Aphakia Treatment Study (IATS) investigators during IATS recruitment and compares them to IATS outcomes of unilateral cases.

Methods: Retrospective clinical study at 10 IATS sites.

Results: 178 eyes (89 children) were identified with median age of 1.8 months (range, 1-7) at cataract surgery. 51 (29%) eyes of 26 patients