

encephalomyelitis, 5 had multiple sclerosis, 5 had neuromyelitis optica spectrum disorder, and 1 had myelin oligodendrocyte glycoprotein-associated demyelination. Twenty-two (51%) had cerebral white matter lesions and 39 (89%) were treated with steroids. Of the 31 affected eyes with 6-month follow-up, 8 (26%) had VA within age normal range at enrollment (median, 0.50 logMAR; range, -0.20 to 1.70 logMAR) and 24 (77%) eyes had VA within age normal range (median, 0.00 logMAR; range, -0.22 to 0.60 logMAR) after 6 months.

Discussion: Despite poor VA at presentation (median Snellen equivalent, 20/63), there was marked improvement in the majority six months after onset (median, 20/20).

Conclusions: In this prospective study visual acuity outcomes in pediatric ON were often favorable with current treatment practice patterns, although some patients have significant deficits.

030 Comparison of outcomes, adverse events, and treatment burden of intravenous chemotherapy versus intra-arterial chemotherapy for retinoblastoma: results of a pilot study. Pranav R. Santapuram, Jessica L. Burris, Debra L. Friedman, Tatsuki Koyama, Anthony B. Daniels

Introduction: Intra-arterial chemotherapy (IAC) is gaining widespread acceptance to treat retinoblastoma, replacing intravenous chemotherapy (IVC) in many centers. Higher globe salvage rates are reported with IAC than IVC. A direct comparison of adverse events and treatment burden with each modality has not been performed.

Methods: Pilot retrospective cohort study of 20 consecutive patients (IVC only = 9, IAC only = 7, IAC after IVC failure = 4). Globe salvage rate, unplanned healthcare visits, cytopenias, transfusions, and opioid usage were recorded, both during treatment and in the 12-months following treatment completion. Primary outcomes were globe salvage, number of grade 3/4 cytopenias, number of transfusions, number of unplanned healthcare visits, and opioid use.

Results: Compared to patients receiving IAC, patients receiving IVC had more unplanned healthcare visits (1.0 (0.5, 1.0) vs 4.0 (1.0, 5.2) [IAC vs IVC], $P = 0.012$) more grade 3/4 cytopenias (1.0 [1.0, 2.0] vs 6.0 (5.0, 9.2) $P < 0.001$), more transfusions (0.0 (0.0, 0.0) vs 4.0 (1.0, 5.2), $P = 0.004$), required greater use of opioids (mean oral morphine equivalents: 63.5 (37.4, 79.1) vs 120.1 (79.2, 142.5), $P = 0.013$), and lower rates of globe salvage (100% vs. 58% of eyes [IAC vs. IVC], $p = 0.016$).

Discussion: Prior studies have compared success rates for patients undergoing IVC and those undergoing IAC. However, in selecting therapy, likelihood of treatment success, expected adverse events, and treatment burden must be considered. This study provides evidence regarding adverse events and burden associated with each treatment modality.

Conclusions: Treatment success is greater with IAC. IVC is associated with more adverse events and greater treatment burden.

031 The effect of decreasing working distance in stereopsis and its role in perception of closure while texting and driving.

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Introduction: The hypothesis was that working distance as well as the working angle are independent variables that provide a physiologic basis for the dangers of texting while driving.

Methods: A total of 94 medical students with no significant ocular disease volunteered to participate in the study. While viewing a video of a car in front of their own, participants had to respond when the

participant perceived the leading car getting closer, and the trial was repeated while performing a math problem on a cell phone. Trials were done where the math game was held at 30 cm, 60 cm, 30 cm at 30°, and 60 cm at 30°.

Results: All trial had times that were significantly slower than the control. The slowest trial overall was 30 cm at 30°. The trial at 30 cm was significantly slower than the trial at 60 cm ($P < 0.01$). Furthermore, the trial at 30 cm held at 30° was slower than 30 cm at 90° ($P < 0.01$).

Discussion: Both viewing angle and working distance affect the ability to perceive closure. Both visual acuity and stereopsis are severely affected. These findings help explain why texting and driving is so distracting when compared to other distracting tasks such as changing the radio or viewing the dash.

Conclusions: Other authors have established that texting while driving is dangerous. This study helps to isolate the visual effects of altering working angle and distance and the significant effects upon visual acuity and stereopsis.

032 Comparison of hand-held spectral domain optical coherence tomography (HH-SDOCT) findings in nonaccidental injury (NAI) and non-NAI. Bhamy Hariprasad Shenoy, Vinod Sharma, William Newman, Jane Ashworth, Susmito Biswas

Introduction: We previously reported the utility of HH-SDOCT in identifying characteristic and unique vitreoretinal abnormalities not detected on clinical examination in children with NAI. The aim of this study was to compare HH-SDOCT findings in retinal haemorrhages of NAI and non-NAI and evaluate their usefulness in differentiating NAI from non-NAI.

Methods: Retrospective comparative study of HH-SDOCT findings in children with confirmed diagnosis of NAI and children with retinal hemorrhages due to non-NAI. All the children underwent complete ophthalmic evaluation in addition to the HH-SDOCT imaging.

Results: A total of 10 children with retinal findings due to child protection multidisciplinary confirmed NAI and 4 children with retinal hemorrhages due to non-NAI causes were included in the study. All children with NAI induced retinal hemorrhages showed evidence multi-layered retinoschisis and multi-layered retinal haemorrhages. None of the eyes with retinal hemorrhage due to non-NAI causes demonstrated vitreo-retinal interface changes or inner retinal schitic changes.

Discussion: This HH-SDOCT study represents the largest consecutive NAI series reported to date. It demonstrates that the HH-SDOCT identifies characteristic retinal findings associated with NAI cases which may not be seen in non-NAI cases and are usually not evident using routine examination techniques and imaging. These findings add further evidence that could potentially help distinguish between lesions secondary to NAI from non-NAI causes.

Conclusions: HH-SDOCT helps in identifying characteristic retinal findings associated with NAI which may not be seen in retinal hemorrhages due to non-NAI. Future studies with larger sample is needed to validate this finding.

033 Redesigning surgical magnification loupes: effect of angle of declination, weight, and strap design on the postural ergonomics of ophthalmic surgeons. Safer F. Siddicky, Hozhabr Mozafari, Gregory W. King, Donny W. Suh

Introduction: Ophthalmologists using surgical loupes often report chronic neck pain. We designed a surgical loupe and head-strap to reduce neck loading in surgeons. To quantify the effect of this