

BIPOSA Annual Meeting

Thursday 5 October 2023, Royal Society of
Medicine, London

12.00 Session III (P) (S)

Free Papers

Moderators: Una O'Colmain, Dundee and
Clare Roberts, London

**10 PRISM ADAPTATION TESTING IN CHILDREN TO
IMPROVE SURGICAL OUTCOMES IN ESOTROPIA
SURGERY**

T Liu, J Smedley, A Maudgil. *Sheffield Children's NHS Foundation Trust, UK*

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The aim of strabismus surgery is to improve alignment and ideally restore binocular vision. Prism adaptation (PAT) in esotropia is known to improve post-operative outcomes by allowing choice of target angle in line with pre-operative fusion potential. Reaching a successful end-point in PAT requires co-operation, which is not a given in the paediatric population. The purpose of this study is to describe the successful use of prism adaptation in children in planning target angles for esotropia surgery.

Retrospective review of 29 cases from a tertiary centre was conducted, including cases who underwent PAT prior to esotropia surgery over a 6-year period (Jan 2016- Jan 2023). Data was collected from the electronic patient record including patient age, diagnosis, measurements of presenting and prism adapted angles, surgery performed and surgical outcomes.

Successful prism adaptation was carried out in children of ages 3-16 . The average presenting angle of esodeviation was 20.9 PD in the distance and 27.3 PD at near. The average maximum prism adapted angle, which was the target angle used for surgery, was 35.3 PD (range 25-50PD). All patients underwent bimedial recessions except one, a re-do who underwent LR re-advancement. 3 patients had one LR resection in addition (3/28). 89.7% of patients achieved binocular vision with stereopsis, 3.4% achieved binocular vision with simultaneous perception. 2 patients had no demonstrable BV, neither were overcorrected post-operatively.

Pre-operative PAT is an effective tool in pre-operative assessment of paediatric esotropia patients with binocular potential and can be used to optimise surgical planning and outcomes.

**11 CONVERGENCE INSUFFICIENCY: ARE WE MAKING A
DIFFERENCE IN PATIENTS' LIVES OR IS IT A WASTE OF
TIME!**

JL Jong, Z Saleem, J Simmons, M Rhodes, JL Choi. *Sheffield Teaching Hospital NHS Trust, UK*

10.1136/bmjophth-2023-BIPOSA.11

Convergence insufficiency (CI) is a common condition that can impair visual performance and comfort during close visual work. This prospective study evaluated the effectiveness of interventions on clinical outcomes and quality-of-life using the adult strabismus quality-of-life questionnaire (AS20) in patients with CI.

Data was extracted from a database collected at first consultation from 2015 to 2022. Demographics, interventions and outcomes of 84 patients with CI (mean age 47.0 ± 24.9 years) were analysed.

Orthoptic exercises were prescribed to 56% of patients, 32% received prisms, 15% received no treatment, with 3 discharged on the same day. At latest follow-up review, 22.6% were recommended to continue exercises, 28.6% had prisms, 1 underwent bimedial resection and 2 had botox. The median follow-up was 5.5(5.0-55)months, 88.1% were discharged with 29.8% following failure to attend and 9.5% deceased. Near-point of convergence (NPC) improved from a median of 15 (6-50)cm to 10(6-30)cm. The median AS20 score at presentation were 100(30-100) and 47.5(0-100), and post-intervention were 100(80-100) and 77.5(12.5-97.5) for psychosocial and functional components, respectively.

At the latest follow-up, the attendance failure rate was higher for exercises (36%) than for prisms (15%). Improvement was noted in NPC (33%) and mean AS20 scores was 9% higher psychosocially and 32.8% functionally, highlighting the benefits of intervention on patients' quality-of-life.

This cohort provides valuable insights into the clinical management of CI, as evidenced by improvements in NPC and AS20 scores. However, the study also found that long-term compliance with treatment is intrinsically challenging, emphasising the importance of disease education.

**12 THE INCIDENCE, CLINICAL FEATURES, AND
MANAGEMENT OF ESSENTIAL INFANTILE ESOTROPIA IN
THE UNITED KINGDOM. A BRITISH OPHTHALMOLOGY
SURVEILLANCE UNIT (BOSU) STUDY – FINAL REPORT**

P Watts, D Yeo, R Davis, WJ Watkins. *University Hospital of Wales, Cardiff, UK*

10.1136/bmjophth-2023-BIPOSA.12

Studies from the UK have reported declining rates of surgery for childhood esotropia. It is not known if this equates to a reduced incidence of essential infantile esotropia (EIE). A national study was undertaken through the British ophthalmology surveillance unit (BOSU) to determine the incidence presenting features and management of EIE in the UK

Data from a prospective national observational cohort of newly diagnosed EIE presenting to clinicians in the United Kingdom over a 12-month period was collected. Cases with a confirmed diagnosis by a clinician of a constant, non-accommodative esotropia ≥ 20 prism dioptres (PD), presenting at ≤ 12 months, with no neurological or ocular abnormalities were identified through BOSU. Follow up data was collected at 12 months. Data was collected on the age, gender, ethnicity, birth history, age at diagnosis, age at intervention, angle of esotropia, refraction, associated features of amblyopia, overelevation in adduction (OEIA), latent nystagmus and dissociated vertical deviation (DVD), method of management and outcomes.

During the period of observation between October 2017 to October 2018 a total of 57 cases were reported giving an incidence of EIE of 1 in 12,828 live births with a corrected incidence of 1 in 9027 live births allowing for estimated under reporting. The mean age of diagnosis and intervention were 7.05 ± 2.6 months (range 2 to 12 months) and 14.7 ± 4.9 (range 6.5-28.1 months) respectively. The majority were Caucasians 86.5% and 52.7% were female. Management was surgical in 59.6%, and botulinum toxin alone in 22.8%, 17.5% were observed. There was no significant difference in the age of presentation ($P=0.6$), gender ($P=0.8$), prematurity ($P=0.5$), deprivation indices ($P=0.68$), refraction ($P=0.7$), OEIA ($P=0.6$), DVD ($P=0.7$) or follow up ($P=0.3$) between the three groups. The preoperative angle of esotropia was smaller in the observation group ($P=0.04$). The post-operative angle of esotropia was not statistically significant between botulinum toxin or surgery ($P=0.3$) though the age of intervention was earlier in the botulinum group ($P=0.007$). Early intervention did not influence the motor post intervention outcomes between 0-10 prism dioptres of esotropia ($P=0.78$). Amblyopia ($P=0.02$) and latent nystagmus ($P=0.009$) was more common in the observation group.

The incidence of EIE in the UK is considerably lower than reported in other population-based studies. The preferred method of treatment was surgical with earlier intervention in those treated with botulinum toxin. An early age of intervention did not influence motor outcomes. Parental choice and amblyopia treatment were reasons cited for conservative management in the observational group.

16.00 Session VI (P) (S)

Rapid Fire presentations

Moderators: Fiona Rowe, Liverpool and Naomi Tan, London

13 SQUINT HOOK DOWN: A TALE OF HOMEOPATHIC STRABISMUS SURGERY

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A 6 year old boy was expected to undergo strabismus surgery for a symptomatic decompensating fully accommodative esotropia. He reported increasingly troublesome double vision.

With low hypermetropic correction, his visual acuity was 0.02 right eye and 0.04 left eye, his stereoacuity 85 seconds of arc, he had an 18 PD near esophoria and 8PD distance esophoria. Uncorrected, his visual acuity was 0.12 in both eyes with a 30 PD right esotropia at near and 20 PD at distance.

Whilst considering squint surgery, his mother, who is studying homeopathy, initiated treatment with an individualised homeopathic remedy of 30c nitric acid administered once a day on a sugar-coated dissolvable tablet. He completed an initial one-week course with success, although the effect was short lived with diplopia returning after one week. He proceeded with an additional two-week course which allegedly improved his symptoms and ocular alignment.

One month following this self-medicated treatment, our patient attended his scheduled outpatient review, to our surprise without diplopia and without spectacle correction. His unaided visual acuity was 0.04 in both eyes and he controlled a 20 PD esophoria for both near and distance fixation. Strabismus surgery was therefore postponed and active monitoring has resumed. At two months, Mum reports he remains asymptomatic.

This is the first case described where individualised homeopathic treatment has demonstrated an apparent resolution of a fully accommodative esotropia. The longevity is yet to be determined but as homeopathy becomes ever more popular, Paediatric Ophthalmologists may require some basic awareness of such fascinating cases.

14 SURGICAL TREATMENT OF HEAVY EYE SYNDROME BY MODIFIED LOOP MYOPEXY

A Agrawal, VSY Geh. Southend University Hospital, Mid and South Essex Foundation NHS Trust, UK

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Heavy eye syndrome or convergent strabismus fixus is an acquired strabismus typically seen in eyes with high myopia. We present a case, discuss the aetiology and management, and include a short video illustrating the surgical procedure undertaken.

A 47-year-old highly myopic woman with h/o bilateral cataract surgery and B/L scleral buckling for retinal detachments, had left esotropia and hypotropia measuring more than 40 prism dioptres base-out and 12 prism dioptres base up. MRI orbits showed bilateral asymmetrical medial deviation of ocular bulbs, more on left side. Also, there was degeneration of lateral rectus-superior rectus band with displacement of lateral rectus downwards.

She underwent Botox to bi-medial recti after which she could demonstrate potential for binocular single vision. A left un-augmented loop Myopexy procedure and recession of the left medial rectus was thereafter performed under general anaesthesia. After surgery, her eyes were binocularly aligned for near with minimal esotropia for distance.

This case suggests that patients with significant esotropia combined with high myopia should be suspected to have heavy eye syndrome. Orbital imaging should be undertaken to demonstrate the anatomical abnormality and muscle paths to confirm a definite diagnosis. Modified Loop Myopexy was found to be effective in this case of heavy eye syndrome

15 RETINOPATHY IN PATIENTS WITH MUCOPOLYSACCHARIDOSIS

M Noor, O McGrath, N Parry, T Aslam, J Ashworth. Manchester Royal Eye Hospital, Manchester, UK

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The mucopolysaccharidoses are a group of inherited metabolic disorders resulting in abnormal degradation of glycosaminoglycans within lysosomes. Ophthalmic manifestations resulting in visual loss include corneal clouding, optic neuropathy and raised intraocular pressure, and retinopathy which occurs in