Ophthalmology Update

08 July 2021

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HDAS Export

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Full strategy

1. Management of congenital nasolacrimal duct obstruction: results of a national survey of paediatric and oculoplastic ophthalmologists.

Author(s): Golash, Vidushi; Kaur, Harpreet; Athwal, Sarju; Chakartash, Rebiye; Laginaf, Masara; Khandwala, Mona

Source: Eye (London, England); Jul 2021; vol. 35 (no. 7); p. 1930-1936

Publication Date: Jul 2021

Publication Type(s): Journal Article

PubMedID: 32939049

Abstract:

BACKGROUND: To survey variation in management of congenital nasolacrimal duct obstruction (CNLDO) by oculoplastic and paediatric ophthalmologists in the UK.

METHODS: A 14-question online survey was sent to all members of the British Oculoplastic Surgery Society (BOPSS) and the British and Irish Paediatric Ophthalmology and Strabismus Association (BIPOSA) in February 2020. The aim was to establish preferred primary, secondary and tertiary interventions for CNLDO treatment, with emphasis on the use of nasoendoscopy and ductal intubation. Results were compared with a national survey from 2007 to observe trends in management.

RESULTS: One hundred and three responses from single-speciality consultants were analysed. In total, 71.8% of CNLDO patients were assessed by paediatric ophthalmologists. Fluorescein dye disappearance test was the commonest investigation, and paediatric consultants were five times more likely to perform Jones test. No clinicians performed outpatient probing. Age of first intervention was most commonly 12 months, although more interventions are being conducted at younger ages than in 2007. Preferred primary procedure for both subspecialties was syringe and probe under general anaesthetic, with 43.9% of oculoplastic consultants using nasoendoscopy vs 12.9% of paediatric consultants. Most common re-do procedure for both subspecialties was nasoendoscopy-guided syringe and probe ± intubation. In contrast to 2007, dacryocystorhinostomy is now the commonest tertiary procedure, with endonasal approach twice as common as external.

CONCLUSION: Despite changes in approach since 2007, there is still considerable variation between oculoplastic and paediatric ophthalmologists regarding treatment preferences for CNLDO, particularly the use of nasoendoscopy. We propose a national audit of CNLDO treatment outcomes to potentially standardise treatment protocols.

Database: Medline

2. Study of Optimal Perimetric Testing In Children (OPTIC): developing consensus and setting research priorities for perimetry in the management of children with glaucoma.

Author(s): Patel, Dipesh E; Cumberland, Phillippa M; Walters, Bronwen C; Abbott, Joseph; Brookes, John; Edmunds, Beth; Khaw, Peng Tee; Lloyd, Ian Christopher; Papadopoulos, Maria; Sung, Velota; Cortina-Borja, Mario; Rahi, Jugnoo S; OPTIC Study Group

Source: Eye (London, England); Jun 2021

Publication Date: Jun 2021

Publication Type(s): Journal Article

PubMedID: 34155365

Available at Eye (London, England) - from Unpaywall

Abstract:

BACKGROUND: Perimetry is important in the management of children with glaucoma, but there is limited evidence-based guidance on its use. We report an expert consensus-based study to update guidance and identify areas requiring further research.

METHODS: Experts were invited to participate in a modified Delphi consensus process. Panel selection was based on clinical experience of managing children with glaucoma and UK-based training to minimise diversity of view due to healthcare setting. Questionnaires were delivered electronically, and analysed to establish 'agreement'. Divergence of opinions was investigated and resolved where possible through further iterations.

RESULTS: 7/9 experts invited agreed to participate. Consensus (≥5/7 (71%) in agreement) was achieved for 21/26 (80.8%) items in 2 rounds, generating recommendations to start perimetry from approximately 7 years of age (IQR: 6.75-7.25), and use qualitative methods in conjunction with automated reliability indices to assess test quality. There was a lack of agreement about defining progressive visual field (VF) loss and methods for implementing perimetry longitudinally. Panel members highlighted the importance of informing decisions based upon individual circumstances-from gauging maturity/capability when selecting tests and interpreting outcomes, to accounting for specific clinical features (e.g. poor IOP control and/or suspected progressive VF loss) when making decisions about frequency of testing.

CONCLUSIONS: There is commonality of expert views in relation to implementing perimetry and interpreting test quality in the management of children with glaucoma. However, there remains a lack of agreement about defining progressive VF loss, and utilising perimetry over an individuals' lifetime, highlighting the need for further research.

Database: Medline

3. Outcomes of cataract surgery in patients previously treated with orbital radiotherapy.

Author(s): Hind, Jennifer; Jamison, Aaron; Schipani, Stefano; Connolly, Julie; Cauchi, Paul; Chadha, Vikas

Source: Journal of cataract and refractive surgery; Jun 2021

Publication Date: Jun 2021

Publication Type(s): Journal Article

PubMedID: 34133403

Abstract:

PURPOSE: This study aims to quantify the risks of cataract surgery in patients who have previously undergone external beam radiotherapy (EBRT). Cataract is a side effect of this treatment, and the risk of complications following cataract surgery in this cohort is poorly understood.

SETTING: Tertiary ophthalmology and oncology hospital.

DESIGN: Retrospective case series.

METHODS: Patients treated with orbital EBRT at the Beatson West of Scotland Cancer Centre between 2001 and 2019 were identified, and clinical records were reviewed to identify those who had subsequently undergone cataract surgery. Pre- and post-operative case records, and operation records, were reviewed to identify demographic data, and data regarding complications and surgical outcomes.

RESULTS: Forty-six eyes (of 33 patients) were included in this study. The indications for EBRT included thyroid eye disease, lymphoma, choroidal metastases and other orbital malignancies. Mean corrected pre-operative Snellen visual acuity (VA) was 20/100 (range 20/30-20/2000) improving to 20/25 (20/12 to 20/160, one-way ANOVA $p<0.01$). Mean visual gain was 0.5 LogMAR (-0.9 to 1.9). There was one case of posterior capsule (PC) rupture with vitreous loss (2%). Dense PC plaque was noted intra-operatively in 19.5% (n=9). 13% (n=6) required Nd:YAG laser posterior capsulotomy. There were six cases (13%) of cystoid macular oedema (CMO).

CONCLUSION: Visual outcomes following cataract surgery are similar in this cohort of patients to those obtained in a nationwide cohort. EBRT seems to be associated with an increased incidence of intra-operative PC plaque, post-operative CMO (which in most cases settled with treatment), and need for posterior capsulotomy.

Database: Medline

4. Intravitreal ranibizumab versus aflibercept versus bevacizumab for macular oedema due to central retinal vein occlusion: the LEAVO non-inferiority three-arm RCT.

Author(s): Hykin, Philip; Prevost, A Toby; Sivaprasad, Sobha; Vasconcelos, Joana C; Murphy, Caroline; Kelly, Joanna; Ramu, Jayashree; Alshreef, Abualbishr; Flight, Laura; Pennington, Rebekah; Hounsome, Barry; Lever, Ellen; Metry, Andrew; Poku, Edith; Yang, Yit; Harding, Simon P; Lotery, Andrew; Chakravarthy, Usha; Brazier, John

Source: Health technology assessment (Winchester, England); Jun 2021; vol. 25 (no. 38); p. 1-196

Publication Date: Jun 2021

Publication Type(s): Journal Article

PubMedID: 34132192

Available at Health technology assessment (Winchester, England) - from Unpaywall

Abstract:

BACKGROUND: Licensed ranibizumab (0.5 mg/0.05 ml Lucentis®; Novartis International AG, Basel, Switzerland) and aflibercept (2 mg/0.05 ml Eylea®; Bayer AG, Leverkusen, Germany) and unlicensed bevacizumab (1.25 mg/0.05 ml Avastin®; F. Hoffmann-La Roche AG, Basel, Switzerland) are used to treat macula oedema due to central retinal vein occlusion, but their relative clinical effectiveness, cost-effectiveness and impact on the UK NHS and Personal Social Services have never been directly compared over the typical disease treatment period.

OBJECTIVE: The objective was to compare the clinical effectiveness and cost-effectiveness of three intravitreal antivascular endothelial growth factor agents for the management of macula oedema due to central retinal vein occlusion.

DESIGN: This was a three-arm, double-masked, randomised controlled non-inferiority trial.

SETTING: The trial was set in 44 UK NHS ophthalmology departments, between 2014 and 2018.

PARTICIPANTS: A total of 463 patients with visual impairment due to macula oedema secondary to central retinal vein occlusion were included in the trial.

INTERVENTIONS: The participants were treated with repeated intravitreal injections of ranibizumab (n = 155), aflibercept (n = 154) or bevacizumab (n = 154).

MAIN OUTCOME MEASURES: The primary outcome was an increase in the best corrected visual acuity letter score from baseline to 100 weeks in the trial eye. The null hypothesis that aflibercept and bevacizumab are each inferior to ranibizumab was tested with a non-inferiority margin of -5 visual acuity letters over 100 weeks. Secondary outcomes included additional visual acuity, and imaging outcomes, Visual Function Questionnaire-25, EuroQol-5 Dimensions with and without a vision bolt-on, and drug side effects. Cost-effectiveness was estimated using treatment costs and Visual Function Questionnaire-Utility Index to measure quality-adjusted life-years.

RESULTS: The adjusted mean changes at 100 weeks in the best corrected visual acuity letter scores were as follows - ranibizumab, 12.5 letters (standard deviation 21.1 letters); aflibercept, 15.1 letters (standard deviation 18.7 letters); and bevacizumab, 9.8 letters (standard deviation 21.4 letters). Aflibercept was non-inferior to ranibizumab in the intention-to-treat population (adjusted mean best corrected visual acuity difference 2.23 letters, 95% confidence interval -2.17 to 6.63 letters; p = 0.0006), but not superior. The study was unable to demonstrate that bevacizumab was non-inferior to ranibizumab in the intention-to-treat population (adjusted mean best corrected visual acuity difference -1.73 letters, 95% confidence interval -6.12 to 2.67 letters; p = 0.071). A post hoc analysis was unable to demonstrate that bevacizumab was non-inferior to aflibercept in the intention-to-treat population (adjusted mean best corrected visual acuity difference was -3.96 letters, 95% confidence interval -8.34 to 0.42 letters; p = 0.32). All per-protocol population results were the same. Fewer injections were required with aflibercept (10.0) than with ranibizumab (11.8) (difference in means -1.8, 95% confidence interval -2.9 to -0.8). A post hoc analysis showed that more bevacizumab than aflibercept injections were required (difference in means 1.6, 95% confidence interval 0.5 to 2.7). There were no new safety concerns. The model- and trial-based cost-effectiveness analyses estimated that bevacizumab was the most cost-effective treatment at a threshold of £20,000-30,000 per quality-adjusted life-year.

LIMITATIONS: The comparison of aflibercept and bevacizumab was a post hoc analysis.

CONCLUSION: The study showed aflibercept to be non-inferior to ranibizumab. However, the possibility that bevacizumab is worse than ranibizumab and aflibercept by 5 visual acuity letters cannot be ruled out. Bevacizumab is an economically attractive treatment alternative and would lead to substantial cost savings to the NHS and other

health-care systems. However, uncertainty about its relative effectiveness should be discussed comprehensively with patients, their representatives and funders before treatment is considered.

FUTURE WORK: To obtain extensive patient feedback and discuss with all stakeholders future bevacizumab NHS use.

TRIAL REGISTRATION: Current Controlled Trials ISRCTN13623634.FUNDINGThis project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 25, No. 38. See the NIHR Journals Library website for further project information.

Database: Medline

5. Genetic Analysis in a Swiss Cohort of Bilateral Congenital Cataract.

Author(s): Rechsteiner, Delia; Issler, Lydia; Koller, Samuel; Lang, Elena; Bähr, Luzy; Feil, Silke; Rüegger, Christoph M; Kottke, Raimund; Toelle, Sandra P; Zweifel, Noëmi; Steindl, Katharina; Joset, Pascal; Zweier, Markus; Suter, Aude-Annick; Gogoll, Laura; Haas, Cordula; Berger, Wolfgang; Gerth-Kahlert, Christina

Source: JAMA ophthalmology; May 2021

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 34014271

Available at JAMA ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: Importance: Identification of geographic population-based differences in genotype and phenotype heterogeneity are important for targeted and patient-specific diagnosis and treatment, counseling, and screening strategies.

Objective: To report disease-causing variants and their detailed phenotype in patients with bilateral congenital cataract from a single center in Switzerland and thereby draw a genetic map and perform a genotype-phenotype comparison of this cohort.

Design, Setting, and Participants: This clinical and molecular-genetic cohort study took place through the collaboration of the Department of Ophthalmology at the University Hospital Zurich and the Institute of Medical Molecular Genetics, University of Zurich, Schlieren, Switzerland. Thirty-seven patients from 25 families with different types of bilateral congenital cataract were included. All participating family members received a comprehensive eye examination. Whole exome sequencing was performed in the index patients, followed by a filtering process to detect possible disease-associated variants in genes previously described in association with congenital cataract. Probable disease-causing variants were confirmed by Sanger sequencing in available family members. All data were collected from January 2018 to June 2020, and the molecular-genetic analyses were performed from January 2019 to July 2020.

Main Outcomes and Measures: Identification of the underlying genetic causes of bilateral congenital cataract, including novel disease-causing variants and phenotype correlation.

Results: Among the 37 patients (18 [49%] male and 19 [51%] female; mean [SD] age, 17.3 [15.9] years) from 25 families, pathogenic variants were detected in 20 families (80% detection rate), which included 13 novel variants in the following genes: BCOR, COL4A1, CRYBA2, CRYBB2, CRYGC, CRYGS, GJA3, MAF, NHS, and WFS1. Putative disease-causing variants were identified in 14 of 20 families (70%) as isolated cases and in 6 of 20 families (30%) with syndromic cases. A recessive variant in the CRYBB2 gene in a consanguineous family with 2 affected siblings showing a nuclear and sutural cataract was reported in contrast to previously published reports. In addition, the effect on splicing in a minigene assay of a novel splice site variant in the NHS gene (c.[719-2A>G]) supported the pathogenicity of this variant.

Conclusions and Relevance: This study emphasizes the importance of genetic testing of congenital cataracts. Known dominant genes need to be considered for recessive inheritance patterns. Syndromic types of cataract may be underdiagnosed in patients with mild systemic features.

Database: Medline

6. Primary trabeculectomy for advanced glaucoma: pragmatic multicentre randomised controlled trial (TAGS).

Author(s): King, Anthony J; Hudson, Jemma; Fernie, Gordon; Kernohan, Ashleigh; Azuara-Blanco, Augusto; Burr, Jennifer; Homer, Tara; Shabaninejad, Hosein; Sparrow, John M; Garway-Heath, David; Barton, Keith; Norrie, John; McDonald, Alison; Vale, Luke; MacLennan, Graeme; TAGS Study Group

Source: BMJ (Clinical research ed.); May 2021; vol. 373 ; p. n1014

Publication Date: May 2021

Publication Type(s): Pragmatic Clinical Trial Multicenter Study Journal Article

PubMedID: 33980505

Available at BMJ (Clinical research ed.) - from BMJ Journals

Available at BMJ (Clinical research ed.) - from Unpaywall

Abstract:

OBJECTIVE: To determine whether primary trabeculectomy or primary medical treatment produces better outcomes in term of quality of life, clinical effectiveness, and safety in patients presenting with advanced glaucoma.

DESIGN: Pragmatic multicentre randomised controlled trial.

SETTING: 27 secondary care glaucoma departments in the UK.

PARTICIPANTS: 453 adults presenting with newly diagnosed advanced open angle glaucoma in at least one eye (Hodapp classification) between 3 June 2014 and 31 May 2017.

INTERVENTIONS: Mitomycin C augmented trabeculectomy (n=227) and escalating medical management with intraocular pressure reducing drops (n=226)

MAIN OUTCOME MEASURES: Primary outcome: vision specific quality of life measured with Visual Function Questionnaire-25 (VFQ-25) at 24 months.

SECONDARY OUTCOMES: general health status, glaucoma related quality of life, clinical effectiveness (intraocular pressure, visual field, visual acuity), and safety.

RESULTS: At 24 months, the mean VFQ-25 scores in the trabeculectomy and medical arms were 85.4 (SD 13.8) and 84.5 (16.3), respectively (mean difference 1.06, 95% confidence interval -1.32 to 3.43; P=0.38). Mean intraocular pressure was 12.4 (SD 4.7) mm Hg for trabeculectomy and 15.1 (4.8) mm Hg for medical management (mean difference -2.8 (-3.8 to -1.7) mm Hg; P<0.001). Adverse events occurred in 88 (39%) patients in the trabeculectomy arm and 100 (44%) in the medical management arm (relative risk 0.88, 95% confidence interval 0.66 to 1.17; P=0.37). Serious side effects were rare.

CONCLUSION: Primary trabeculectomy had similar quality of life and safety outcomes and achieved a lower intraocular pressure compared with primary medication.

TRIAL REGISTRATION: Health Technology Assessment (NIHR-HTA) Programme (project number: 12/35/38). ISRCTN registry: ISRCTN56878850.

Database: Medline

7. Core outcome set for three ophthalmic conditions: a healthcare professional and patient consensus on core outcome sets for amblyopia, ocular motility and strabismus (COSAMS Study).

Author(s): Al-Jabri, Samiya; Rowe, Fiona J; Kirkham, Jamie J

Source: BMJ open; May 2021; vol. 11 (no. 5); p. e042403

Publication Date: May 2021

Publication Type(s): Research Support, Non-u.s. Gov't Dataset Journal Article

PubMedID: 33980515

Available at BMJ open - from BMJ Journals

Available at BMJ open - from Europe PubMed Central - Open Access

Available at BMJ open - from HighWire - Free Full Text

Available at BMJ open - from ProQuest (Health Research Premium) - NHS Version

Available at BMJ open - from Unpaywall

Abstract:

OBJECTIVES: Amblyopia, strabismus and ocular motility disorders are common conditions with significant impact on visual function, appearance and quality of life. We aimed to establish a core set of outcomes for each of the three conditions for use in clinical trials and routine clinical practice.

DESIGN: A comprehensive databank of outcomes was developed from a systematic review of the literature and a series of focus groups with healthcare professionals, researchers, patients and carers. The databank of outcomes was scored in a two-round Delphi Survey completed by two stakeholder groups: healthcare professionals/researchers and patients/carers. Results of the online Delphi were discussed at a face-to-face consensus meeting where the core outcome sets were finalised.

SETTING: UK-wide consultation.

PARTICIPANTS: Researchers, clinicians, patients and carers.

OUTCOME MEASURES: Core outcome sets.

RESULTS: For amblyopia, strabismus and ocular motility, 40/42/33 participants contributed to both rounds of the Delphi; six/nine/seven members attended consensus meetings, respectively. Consensus was reached on ten core outcomes for both amblyopia and ocular motility and nine for strabismus. All three conditions shared the core outcomes: adverse events, cost, vision-related quality of life and ocular alignment. The strabismus and ocular motility disorder core sets included, in addition, measuring the deviation, binocular vision, ocular movement, patient satisfaction and symptoms. The amblyopia set, distinct from the sets for the other two conditions, included best corrected distance and near visual acuity, spherical and cylindrical refraction, compliance and treatment-related and functionality/long-term impacts.

CONCLUSIONS: The study used robust consensus methods to develop a core outcome set for three ophthalmic conditions. Implementation of these core outcome sets in clinical trials and routine clinical practice will ensure that the outcomes being measured and reported are relevant to all stakeholders. This will enhance the relevance of study findings and enable comparison of results from different studies.

Database: Medline

8. Extended real-world experience with the ILUVIEN® (fluocinolone acetonide) implant in the United Kingdom: 3-year results from the Medisoft® audit study.

Author(s): Bailey, Clare; Chakravarthy, Usha; Lotery, Andrew; Menon, Geeta; Talks, James; Medisoft Audit Group

Source: Eye (London, England); May 2021

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 33972705

Available at Eye (London, England) - from Unpaywall

Abstract:

BACKGROUND: This study aimed to assess the long-term effectiveness of the 0.2 µg/day fluocinolone acetonide (FAc) implant over ≥3 years for patients with diabetic macular oedema.

METHODS: A retrospective audit of pseudo-anonymised data from patients with chronic diabetic macular oedema (cDMO) and treated with the FAc implant across 14 UK clinical sites. Safety and clinical effectiveness were measured.

RESULTS: Two-hundred and fifty-six eyes had ≥3 years of follow-up (mean 4.28 years), during which a mean of 1.14 FAc implants were used per eye. Mean best-recorded visual acuity (BRVA) increased from 52.6 to 56.7 letters at month 3 and remained stable thereafter; this trend was also seen in pseudophakic eyes. The proportion of patients attaining a BRVA ≥6/12 increased from 17% at baseline to 27% 1 month after FAc implant and remained stable above 30% from month 12 onwards. Eyes with no prior history of intraocular pressure (IOP)-related events required significantly less treatment-emergent IOP-lowering medication than those with a prior history of IOP events (17.9% vs. 50.0% of eyes; $p < 0.001$). The incidence of an IOP increase of ≥10 mmHg, use of IOP-lowering medication, laser trabeculoplasty and IOP-lowering surgery was 28.9%, 29.7%, 0.8% and 2.7%, respectively, for the whole cohort. There were significant reductions in mean central foveal thickness and macular volume ($p < 0.001$).

CONCLUSIONS: The FAc implant was well tolerated, with predictable and manageable IOP-related events while delivering a continuous microdose of corticosteroid to eyes with cDMO, providing prolonged vision preservation and a reduced number of treatments.

Database: Medline

9. Capturing the clinical decision-making processes of expert and novice diabetic retinal graders using a 'think-aloud' approach.

Author(s): Curran, Katie; Congdon, Nathan; Peto, Tunde; Dardis, Catherine; Nguyen, Quan Nhu; Hoang, Tung Thanh; Bannon, Finian; Luu, An; Mai, Tung Quoc; Nguyen, Van Thu; Thi Nguyen, Hue; Tran, Huong; Tran, Hoang Huy; Lohfeld, Lynne

Source: Eye (London, England); May 2021

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 33972706

Available at Eye (London, England) - from Unpaywall

Abstract:

BACKGROUND: Diabetic eye screening programmes have been developed worldwide based on evidence that early detection and treatment of diabetic retinopathy are crucial to preventing sight loss. However, little is known about the decision-making processes and training needs of diabetic retinal graders, particularly in low- and middle-income countries.

OBJECTIVES: To provide data for improving evidence-based diabetic retinopathy training to help novice graders process fundus images more like experts.

SUBJECTS/METHODS: This is a mixed-methods qualitative study conducted in southern Vietnam and Northern Ireland. Novice diabetic retinal graders in Vietnam (n = 18) and expert graders in Northern Ireland (n = 5) were selected through a purposive sampling technique. Data were collected from 21st February to 3rd September 2019. The interviewer used neutral prompts during think-aloud sessions to encourage participants to verbalise their thought processes while grading fundus images from anonymised patients, followed by semi-structured interviews. Thematic framework analysis was used to identify themes, supported by illustrative quotes from interviews. Mann-Whitney U tests were used to compare graders' performance.

RESULTS: Expert graders used a more systematic approach when grading images, considered all four images per patient and used available software tools such as red-free filters prior to making a decision on management. The most challenging features for novice graders were intra-retinal microvascular abnormalities and new vessels, which were more accurately identified by experts.

CONCLUSION: Taking more time to grade fundus images and adopting a protocol-driven "checklist" approach may help novice graders to function more like experts.

Database: Medline

10. Laser in Glaucoma and Ocular Hypertension Trial (LIGHT) in China - A Randomized Controlled Trial: Design and Baseline Characteristics.

Author(s): Yang, Yangfan; Jiang, Yuzhen; Huang, Shitong; Zhang, Xinyi; Nathwani, Neil; Lin, Mingkai; Liu, Xing; Zhang, Xiulan; Fan, Yanmei; Xu, Jiangang; Gazzard, Gus; Yu, Minbin; Light China Trial Study Group

Source: American journal of ophthalmology; May 2021; vol. 230 ; p. 143-150

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 33951448

Available at American journal of ophthalmology - from Unpaywall

Abstract:

PURPOSE: To describe the baseline characteristics of a trial to evaluate whether selective laser trabeculoplasty (SLT), as a first-line treatment, provides superior economic and health-related quality of life outcomes to medical treatment in China.

DESIGN: The LiGHT China trial is an unmasked, single-center, pragmatic, randomized controlled trial.

METHODS: A total of 771 previously undiagnosed patients with primary open angle glaucoma (POAG, 622 patients) or ocular hypertension (OHT, 149 patients) at Zhongshan Ophthalmic Center were recruited from March 2015 to January 2019. Subjects were randomized to SLT-1st (followed by medication then surgery when required) or Medicine-1st (medication followed by surgery when required). The primary outcome was health-related quality of life (HRQL). The secondary outcomes were clinical outcomes, cost, cost-effectiveness, Glaucoma Utility Index, Glaucoma Symptom Scale, visual function, and safety.

RESULTS: The mean age of POAG patients was 49.8 years and 38.8 years for OHT. The median intraocular pressure was 20 mm Hg for the 1,105 POAG eyes and 24 mm Hg for the 271 OHT eyes. POAG eyes had thinner central cornea thickness (CCT, 536 µm) than OHT eyes (545 µm). Median mean deviation of the visual field in POAG eyes was -4.2 dB. Median refractive error was -1.5 D for OHT eyes and -1.25 D for POAG eyes. There was no difference between POAG and OHT patients on baseline scores of GUI, GSS and VF-14. The difference between OHT and POAG on the EQ-5D-5L was 0.024.

CONCLUSIONS: Compared with participants in the LiGHT UK trial, participants in this trial were younger, more myopic and had more severe visual field defects.

Database: Medline

11. Epidemiology of visual impairment, sight-threatening or treatment-requiring diabetic eye disease in children and young people in the UK: findings from DECS.

Author(s): Ibanez-Bruron, Maria Carolina; Solebo, Ameenat Lola; Cumberland, Phillippa; Rahi, Jugnoo S

Source: The British journal of ophthalmology; May 2021; vol. 105 (no. 5); p. 729-734

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 32536608

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND: We investigated the incidence and causes of sight-threatening diabetes-related eye disease in children living with diabetes in the UK, to inform the national eye screening programme and enable monitoring of trends.

METHODS: We undertook a prospective active national surveillance via the British Ophthalmic Surveillance Unit. Eligible cases were children aged 18 years or younger, with type 1 or 2 diabetes, newly diagnosed between January 2015 and February 2017 with sight-threatening diabetic eye disease.

RESULTS: Eight children were reported. The annual incidence of all sight-threatening diabetes-related eye disease requiring referral to an ophthalmologist among children living with diabetes (n=8) in the UK was 1.21 per 10 000 person-years (95% CI 0.52 to 2.39) and was largely attributable to cataract (n=5) 0.76 per 10 000 person-years (95% CI 0.25 to 1.77). The incidence of sight-threatening diabetic retinopathy (n=3) among those eligible for screening (12 to 18 year-olds living with diabetes) was 1.18 per 10 000 person-years (95% CI 0.24 to 3.46). No subjects eligible for certification as visually impaired or blind were reported.

CONCLUSIONS: Secondary prevention of visual disability due to retinopathy is currently the sole purpose of national eye screening programmes globally. However, the rarity of treatment-requiring retinopathy in children/young people living with diabetes, alongside growing concerns about suboptimal screening uptake, merit new consideration of the utility of screening for primary prevention of diabetes-related morbidity by using the screening event and findings as a catalyst for better diabetes self-management.

Database: Medline

12. Genetic variation affects morphological retinal phenotypes extracted from UK Biobank optical coherence tomography images.

Author(s): Currant, Hannah; Hysi, Pirro; Fitzgerald, Tomas W; Gharahkhani, Puya; Bonnemaijer, Pieter W M; Senabouth, Anne; Hewitt, Alex W; UK Biobank Eye and Vision Consortium; International Glaucoma Genetics Consortium; Atan, Denize; Aung, Tin; Charng, Jason; Choquet, Hélène; Craig, Jamie; Khaw, Peng T; Klaver, Caroline C W; Kubo, Michiaki; Ong, Jue-Sheng; Pasquale, Louis R; Reisman, Charles A; Daniszewski, Maciej; Powell, Joseph E; Pébay, Alice; Simcoe, Mark J; Thiadens, Alberta A H J; van Duijn, Cornelia M; Yazar, Seyhan; Jorgenson, Eric; MacGregor, Stuart; Hammond, Chris J; Mackey, David A; Wiggs, Janey L; Foster, Paul J; Patel, Praveen J; Birney, Ewan; Khawaja, Anthony P

Source: PLoS genetics; May 2021; vol. 17 (no. 5); p. e1009497

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 33979322

Available at PLoS genetics - from Europe PubMed Central - Open Access

Available at PLoS genetics - from Public Library of Science (PLoS)

Available at PLoS genetics - from EBSCO (MEDLINE Complete)

Available at PLoS genetics - from ProQuest (MEDLINE with Full Text) - NHS Version

Available at PLoS genetics - from ProQuest (Health Research Premium) - NHS Version

Available at PLoS genetics - from Unpaywall

Abstract: Optical Coherence Tomography (OCT) enables non-invasive imaging of the retina and is used to diagnose and manage ophthalmic diseases including glaucoma. We present the first large-scale genome-wide association study of inner retinal morphology using phenotypes derived from OCT images of 31,434 UK Biobank participants. We identify 46 loci associated with thickness of the retinal nerve fibre layer or ganglion cell inner plexiform layer. Only one of these loci has been associated with glaucoma, and despite its clear role as a biomarker for the disease, Mendelian randomisation does not support inner retinal thickness being on the same genetic causal pathway as glaucoma. We extracted overall retinal thickness at the fovea, representative of foveal hypoplasia, with which three of the 46 SNPs were associated. We additionally associate these three loci with visual acuity. In contrast to the Mendelian causes of severe foveal hypoplasia, our results suggest a spectrum of foveal hypoplasia, in part genetically determined, with consequences on visual function.

Database: Medline

13. Multimodal imaging interpreted by graders to detect re-activation of diabetic eye disease in previously treated patients: the EMERALD diagnostic accuracy study.

Author(s): Lois, Noemi; Cook, Jonathan; Wang, Ariel; Aldington, Stephen; Mistry, Hema; Maredza, Mandy; McAuley, Danny; Aslam, Tariq; Bailey, Clare; Chong, Victor; Ghanchi, Faruque; Scanlon, Peter; Sivaprasad, Sobha; Steel, David; Styles, Caroline; Azuara-Blanco, Augusto; Prior, Lindsay; Waugh, Norman

Source: Health technology assessment (Winchester, England); May 2021; vol. 25 (no. 32); p. 1-104

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 34060440

Available at Health technology assessment (Winchester, England) - from Unpaywall

Abstract:

BACKGROUND: Owing to the increasing prevalence of diabetes, the workload related to diabetic macular oedema and proliferative diabetic retinopathy is rising, making it difficult for hospital eye services to meet demands.

OBJECTIVE: The objective was to evaluate the diagnostic performance, cost-effectiveness and acceptability of a new pathway using multimodal imaging interpreted by ophthalmic graders to detect reactivation of diabetic macular oedema/proliferative diabetic retinopathy in previously treated patients.

DESIGN: This was a prospective, case-referent, cross-sectional diagnostic study.

SETTING: The setting was ophthalmic clinics in 13 NHS hospitals.

PARTICIPANTS: Adults with type 1 or type 2 diabetes with previously successfully treated diabetic macular oedema/proliferative diabetic retinopathy in one/both eyes in whom, at the time of enrolment, diabetic macular oedema/proliferative diabetic retinopathy could be active or inactive.

METHODS: For the ophthalmic grader pathway, review of the spectral domain optical coherence tomography scans to detect diabetic macular oedema, and seven-field Early Treatment Diabetic Retinopathy Study/ultra-wide field fundus images to detect proliferative diabetic retinopathy, by trained ophthalmic graders. For the current standard care pathway (reference standard), ophthalmologists examined patients face to face by slit-lamp biomicroscopy for proliferative diabetic retinopathy and, in addition, spectral domain optical coherence tomography imaging for diabetic macular oedema.

OUTCOME MEASURES: The primary outcome measure was sensitivity of the ophthalmic grader pathway to detect active diabetic macular oedema/proliferative diabetic retinopathy. The secondary outcomes were specificity, agreement between pathways, cost-consequences, acceptability and the proportion of patients requiring subsequent ophthalmologist assessment, unable to undergo imaging and with inadequate quality images/indeterminate findings. It was assumed for the main analysis that all patients in whom graders diagnosed active disease or were 'unsure' or images were 'ungradable' required examination by an ophthalmologist.

RESULTS: Eligible participants with active and inactive diabetic macular oedema (152 and 120 participants, respectively) and active and inactive proliferative diabetic retinopathy (111 and 170 participants, respectively) were recruited. Under the main analysis, graders had a sensitivity of 97% (142/147) (95% confidence interval 92% to 99%) and specificity of 31% (35/113) (95% confidence interval 23% to 40%) to detect diabetic macular oedema. For proliferative diabetic retinopathy, graders had a similar sensitivity and specificity using seven-field Early Treatment Diabetic Retinopathy Study [sensitivity 85% (87/102), 95% confidence interval 77% to 91%; specificity 48% (77/160), 95% confidence interval 41% to 56%] or ultra-wide field imaging [sensitivity 83% (87/105), 95% confidence interval 75% to 89%; specificity 54% (86/160), 95% confidence interval 46% to 61%]. Participants attending focus groups expressed preference for face-to-face evaluations by ophthalmologists. In the ophthalmologists' absence, patients voiced the need for immediate feedback following grader's assessments, maintaining periodic evaluations by ophthalmologists. Graders and ophthalmologists were supportive of the new pathway. When compared with the reference standard (current standard pathway), the new grader pathway could save £1390 per 100 patients in the review of people with diabetic macular oedema and, depending on the imaging modality used, between £461 and £1189 per 100 patients in the review of people with proliferative diabetic retinopathy.

CONCLUSIONS: For people with diabetic macular oedema, the ophthalmic grader pathway appears safe and cost saving. The sensitivity of the new pathway to detect active proliferative diabetic retinopathy was lower, but may still be considered acceptable for patients with proliferative diabetic retinopathy previously treated with laser. Suggestions from focus group discussions should be taken into consideration if the new pathway is introduced to ensure its acceptability to users.

LIMITATIONS: Lack of fundus fluorescein angiography to confirm diagnosis of active proliferative diabetic retinopathy.

FUTURE WORK: Could refinement of the new pathway increase its sensitivity to detect proliferative diabetic retinopathy? Could artificial intelligence be used for automated reading of images in this previously treated population?

TRIAL REGISTRATION: Current Controlled Trials ISRCTN10856638 and ClinicalTrials.gov NCT03490318.

FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology AssessmentVol. 25, No. 32. See the NIHR Journals Library website for further project information.

Database: Medline

14. Incidence of Paradoxical Neurosensory Detachment in Diabetic Eyes Undergoing Hemodialysis for End-Stage Renal Disease.

Author(s): Kumar, Kshitiz; Balasubramaniam, Santosh; Raj, Pallavi; Agarwal, Amar

Source: Cureus; Apr 2021; vol. 13 (no. 4); p. e14739

Publication Date: Apr 2021

Publication Type(s): Journal Article

PubMedID: 34079684

Available at Cureus - from Europe PubMed Central - Open Access

Available at Cureus - from ProQuest (Health Research Premium) - NHS Version

Available at Cureus - from Unpaywall

Abstract:

Introduction: Ocular fluid dynamics are known to improve during hemodialysis, and the improvement of uremia after dialysis may lead to osmotic pressure changes in the retina, which eventually affect retinal edema. Recent studies using optical coherence tomography (OCT) to assess the effect of hemodialysis on macular thickness have shown variable results with a majority of them finding a decrease in retinal thickness. Paradoxical neurosensory retinal detachment (NSD) may be defined as the accumulation of subretinal fluid under the macula in patients who are on continuous HD. The purpose of the study was to find out the incidence of paradoxical neurosensory detachment in diabetic eyes undergoing hemodialysis (HD) and its management.

Methods: This was a cross-sectional, prospective study involving end-stage renal disease (ESRD) patients secondary to diabetes. This study evaluated the changes in macular thickness in diabetic retinopathy patients with and without diabetic macular edema (DME) by spectral-domain optical coherence tomography (SD-OCT) 60 minutes before and after HD for ESRD.

Results: Sixty-three eyes (36 patients) were included, with a mean age of 58.2±9.8 years. Seven eyes had paradoxical NSD at presentation with an incidence of 11.11%. Eyes with DME (Group A) showed a significant reduction in central macular thickness (CMT) by 28±2µm post HD, compared to eyes without DME (Group B) where CMT decreased by 15±2µm (p=0.003). Massive subretinal fluid accumulation (paradoxical NSD) with mean CMT 675.57±69.41µm recovered to 250.71±46.79µm at the final follow-up. Five eyes underwent an intravitreal dexamethasone implant (DEX-I, Ozurdex; Allergan, Dublin, Ireland) to achieve the resolution of SRF, whereas two eyes improved spontaneously by nine months.

Conclusion: Hemodialysis results in a decrease of macular thickness in diabetic eyes with or without DME. Paradoxical neurosensory detachment can develop in eyes of patients undergoing HD chronically. Intravitreal dexamethasone implant (DEX-I, Ozurdex; Allergan, Dublin, Ireland) results in early amelioration of such a complication.

Database: Medline

15. Real world evidence on 5661 patients treated for macular oedema secondary to branch retinal vein occlusion with intravitreal anti-vascular endothelial growth factor, intravitreal dexamethasone or macular laser.

Author(s): Gale, Richard; Pikoula, Maria; Lee, Aaron Y; Denaxas, Spiros; Egan, Catherine; Tufail, Adnan; Taylor, Paul; UK EMR Users Group

Source: The British journal of ophthalmology; Apr 2021; vol. 105 (no. 4); p. 549-554

Publication Date: Apr 2021

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Multicenter Study Journal Article

PubMedID: 32532760

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from ProQuest (Health Research Premium) - NHS Version

Available at The British journal of ophthalmology - from ProQuest (MEDLINE with Full Text) - NHS Version

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND/AIMS: Clinical trials suggest anti-vascular endothelial growth factor is more effective than intravitreal dexamethasone as treatment for macular oedema secondary to branch retinal vein occlusion. This study asks if 'real world' data from a larger and more diverse population, followed for a longer period, also support this conclusion.

METHODS: Data collected to support routine care at 27 NHS (National Health Service) Trusts between February 2002 and September 2017 contained 5661 treatment-naive patients with a single mode of treatment for macular oedema secondary to branch retinal vein occlusion and no history of cataract surgery either during or recently preceding the treatment. Number of treatment visits and change in visual acuity from baseline was plotted for three treatment groups (anti-vascular endothelial growth factor (anti-VEGF), intravitreal dexamethasone, macular laser) for up to 3 years.

RESULTS: Mean baseline visual acuity was 57.1/53.1/62.3 letters in the anti-VEGF/dexamethasone/macular laser groups, respectively. This changed to 66.72 (+9.6)/57.6 (+4.5)/63.2 (+0.9) at 12 months. Adequate numbers allowed analysis at 18 months for all groups (66.6 (+9.5)/56.1 (+3.0)/60.8 (-1.5)) and for anti-VEGF at 36 months (68.0, +10.9) Mean number of treatments were 5.1/1.5/1.2 at 12 months, 5.9/1.7/1.2 at 18 months for all three groups and 10.3 at 36 months for anti-VEGF.

CONCLUSIONS: Visual acuity improvements were higher and more sustained with anti-VEGF. Higher treatment burden occurred with anti-VEGF but this reduced over 36 months. Patients with better vision at baseline than those in the clinical trials maintained high levels of vision with both anti-VEGF and dexamethasone.

Database: Medline

16. The contribution of the English NHS Diabetic Eye Screening Programme to reductions in diabetes-related blindness, comparisons within Europe, and future challenges.

Author(s): Scanlon, Peter H

Source: Acta diabetologica; Apr 2021; vol. 58 (no. 4); p. 521-530

Publication Date: Apr 2021

Publication Type(s): Comparative Study Journal Article

PubMedID: 33830332

Available at Acta diabetologica - from Unpaywall

Abstract: The aim of the English NHS Diabetic Eye Screening Programme (DESP) is to reduce the risk of sight loss amongst people with diabetes by the prompt identification and effective treatment if necessary of sight-threatening diabetic retinopathy, at the appropriate stage during the disease process, with a long-term aim of preventing blindness in people with diabetes. For the year 2009-2010, diabetic retinopathy (DR) was no longer the leading cause of blindness in the working age group. There have been further reductions in DR certifications for WHO severe vision impairment and blindness from 1,334 (5.5% of all certifications) in 2009/2010 to 840 (3.5% of all certifications) in 2018/2019. NHS DESP is a major contributor to this further reduction, but one must also take into account improvements in glycaemic and blood pressure control, timely laser treatment and vitrectomy surgery, improved monitoring techniques for glycaemic control, and vascular endothelial growth factor inhibitor injections for control of diabetic macular oedema. The latter have had a particular impact since first introduced in the UK in 2013.Current plans for NHS DESP include extension of screening intervals in low-risk groups and the introduction of optical coherence tomography as a second line of screening for those with screen positive maculopathy with two dimensional markers. Future challenges include the introduction of automated analysis for grading and new camera technologies.

Database: Medline

17. Laser peripheral iridoplasty for chronic angle closure.

Author(s): Bayliss, James M; Ng, Wai Siene; Waugh, Norman; Azuara-Blanco, Augusto

Source: The Cochrane database of systematic reviews; Mar 2021; vol. 3 ; p. CD006746

Publication Date: Mar 2021

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Systematic Review

PubMedID: 33755197

Available at The Cochrane database of systematic reviews - from Cochrane Collaboration (Wiley)

Abstract:

BACKGROUND: In at least a third of primary angle closure cases, appositional angle closure persists after laser peripheral iridotomy, and further intervention may be considered. Laser peripheral iridoplasty (LPIp) can be used in treating chronic angle closure when angle closure persists after laser peripheral iridotomy. Previous reviews have found insufficient data to determine its clinical effectiveness, compared to other interventions. This is an update of a Cochrane Review first published in 2008 and updated in 2012. It examines all studies to date to establish whether LPIp shows any effectiveness over other available treatment options.

OBJECTIVES: To assess the effectiveness of laser peripheral iridoplasty in the treatment of people with chronic angle closure, when compared to laser peripheral iridotomy, medical therapy or no further treatment.

SEARCH METHODS: We searched various electronic databases. The date of the search was 20 December 2020.

SELECTION CRITERIA: We included only randomised controlled trials (RCTs) assessing the use of LPIp in cases of suspected primary angle closure (PACS), confirmed primary angle closure (PAC), or primary chronic angle-closure glaucoma (PACG). We applied no restrictions with respect to gender, age or ethnicity of participants. Trials evaluating LPIp for acute attacks of angle closure were not eligible.

DATA COLLECTION AND ANALYSIS: We used standard methodological procedures expected by Cochrane. Two authors independently assessed studies for risk of bias using Cochrane's 'risk of bias' tool. We collected adverse effects information from the trials.

MAIN RESULTS: We included four RCTs involving 252 participants (276 eyes). In total, three different methods of intervention were used and 15 outcomes reported, with different time points. We used narrative synthesis to describe the majority of the findings, as meta-analysis was only possible for a limited number of outcomes due to the variation in study design and outcomes assessed. Study Characteristics Participants were adults recruited from outpatient settings in the UK, Singapore, China and Korea with either PACS, PAC or PACG. All studies compared

argon LPIp (as either a primary or secondary procedure) to an alternative intervention or no further treatment. Three studies were of parallel group design, and one within-person, randomised by eye. All studies showed elements of high risk of bias. Due to the nature of the intervention assessed, a lack of masking of both participants and assessors was noted in all trials. Findings Laser peripheral iridoplasty with iridotomy versus iridotomy alone as a primary procedure Two RCTs assessed the use of argon LPIp as a primary procedure with peripheral iridotomy, compared with peripheral iridotomy alone. However, neither study reported data for the primary outcome, disease progression. Argon LPIp showed no evidence of effect on: final mean intraocular pressure (IOP) at 3 months and 12 months (mean difference (MD) 0.39 mmHg, 95% confidence interval (CI) -1.07 to 1.85; I2 = 38%; 2 studies, 174 participants; low-certainty evidence); further surgical or laser intervention at 12 months (risk ratio (RR) 1.21, 95% CI 0.66 to 2.21; 1 study, 126 participants; low-certainty evidence); or mean number of additional medications required at 12 months (MD 0.10, 95% CI -0.34 to 0.54; 1 study, 126 participants; low-certainty evidence). Complications were assessed at 3 to 12 months (2 studies, 206 participants; low-certainty evidence) and found to be mild and uncommon, with comparable levels between groups. The only severe complication encountered was one case of malignant glaucoma in one study's argon LPIp group. Quality of life measures were not assessed. In the other study, investigators found that argon LPIp showed no evidence of effect on final mean anterior segment optical coherence tomography (AS-OCT) measurements, including anterior chamber depth (MD 0.00 mm, 95% CI -0.10 to 0.10; 24 participants, 48 eyes; very low-certainty evidence). Laser peripheral iridoplasty as a secondary procedure versus no treatment One RCT assessed the use of argon LPIp as a secondary procedure compared with no further treatment in 22 participants over three months. Disease progression, additional medications required, complications, further surgical or laser intervention, and quality of life outcomes were not assessed. There was only very low-certainty evidence regarding final maximum IOP value (MD -1.81 mmHg, 95% CI -3.11 to -0.51; very low-certainty evidence), with no evidence of effect on final minimum IOP values (MD -0.31 mmHg, 95% CI -1.93 to 1.31; very low-certainty evidence). The evidence is very uncertain about the effect of argon LPIp on AS-OCT parameters. The trial did not report AS-OCT measurements for the control group. Laser peripheral iridoplasty as a secondary procedure versus medication One RCT assessed the use of argon LPIp as a secondary procedure compared with travoprost 0.004% in 80 participants over 12 months. The primary outcome of disease progression was reported for this method: argon LPIp showed no evidence of effect on mean final cup/disk ratio (MD -0.03, 95% CI -0.11 to 0.05; low-certainty evidence). Argon LPIp showed no evidence of effect for: mean change in IOP (MD -1.20 mmHg, 95% CI -2.87 to 0.47; low-certainty evidence) or mean number of additional medications (MD 0.42, 95% CI 0.23 to 0.61; low-certainty evidence). Further surgical intervention was required by one participant in the intervention group alone, with none in the control group (low-certainty evidence). No serious adverse events were reported, with mild complications consisting of two cases of 'post-laser IOP spike' in the argon LPIp group. Quality of life measures were not assessed. The evidence is very uncertain about the effect of argon LPIp on AS-OCT parameters. The trial did not report AS-OCT measurements for the control group. Adverse events Availability of data were limited for adverse effects. Similar rates were observed in control and intervention groups, where reported. Serious adverse events were rare.

AUTHORS' CONCLUSIONS: After reviewing the outcomes of four RCTs, argon LPIp as an intervention may be no more clinically effective than comparators in the management of people with chronic angle closure. Despite a potential positive impact on anterior chamber morphology, its use in clinical practice in treating people with chronic angle closure is not supported by the results of trials published to date. Given these results, further research into LPIp is unlikely to be worthwhile.

Database: Medline

18. Visual impairment, severe visual impairment, and blindness in children in Britain (BCVIS2): a national observational study.

Author(s): Teoh, Lucinda J; Solebo, Ameenat Lola; Rahi, Jugnoo S; British Childhood Visual Impairment and Blindness Study Interest Group

Source: The Lancet. Child & adolescent health; Mar 2021; vol. 5 (no. 3); p. 190-200

Publication Date: Mar 2021

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Observational Study

PubMedID: 33524322

Abstract:

BACKGROUND: The WHO VISION 2020 global initiative against blindness, launched in 2000, prioritised childhood visual disability by aiming to end avoidable childhood blindness by 2020. However, progress has been hampered by the global paucity of epidemiological data concerning childhood visual disability. The British Childhood Visual Impairment and Blindness Study 2 (BCVIS2) was done to address this evidence gap.

METHODS: BCVIS2 was a prospective UK-wide, cross-sectional, observational study to establish an inception cohort of children newly diagnosed with visual impairment. Opthalmologists and paediatricians reported cases from 89 hospitals and community centres across the UK. We included children aged 18 years or younger who were newly diagnosed with any condition causing impaired visual acuity to a level of 0·5 logMAR or worse (worse than 6/18 Snellen) in each eye, or equivalent vision as assessed by standard qualitative measures, between Oct 1, 2015, and Nov 1, 2016. Eligible children were notified simultaneously but independently by their managing ophthalmologists and paediatricians via the two national active surveillance schemes, the British Ophthalmological Surveillance Unit and the British Paediatric Surveillance Unit. Standardised detailed demographic, socioeconomic, and clinical data about detection, management, and treatment were collected at diagnosis and 1 year later. We calculated incidence estimates and relative rates by key sociodemographic factors. We did descriptive analyses of underlying ophthalmic disorders and non-ophthalmic comorbidities.

FINDINGS: 61 (7%) of 845 eligible children initially notified were ineligible at follow-up because of improved vision after treatment. Thus, the study sample comprised 784 children with permanent newly-diagnosed all-cause visual impairment, severe visual impairment, or blindness. 559 (72%) of 778 children had clinically significant non-ophthalmic impairments or conditions. 28 (4%) of 784 children died within a year after diagnosis of visual disability (all had underlying systemic disorders). Incidence of visual disability in the first year of life was 5·19 per 10 000 children (95% CI 4·71-5·72), almost ten times higher than among 1-to-4-year-olds and between 20 times and 100 times higher than in the older age groups. The overall cumulative incidence (or lifetime risk) of visual impairment, severe visual impairment, or blindness was 10·03 per 10 000 children (9·35-10·76). Incidence rates were higher for those from any ethnic minority group, the lowest quintile of socioeconomic status, and those born preterm or with low birthweight. 345 (44%) of 784 children had a single affected anatomical site. Disorders of the brain and visual pathways affected 378 (48%) of 784 children.

INTERPRETATION: BCVIS2 provides a contemporary snapshot of the heterogeneity, multi-morbidity, and vulnerability associated with childhood visual disability in a high-income country. These findings could facilitate developing and delivering health care and planning of interventional research. Our findings highlight the importance of including childhood visual disability as a sentinel event and metric in global child health initiatives.

FUNDING: Fight for Sight, National Institute for Health Research, and Ulverscroft Foundation.

Database: Medline

19. Clinical Spectrum and Outcomes of Ocular and Periocular Complications following External-Beam Radiotherapy for Inoperable Malignant Maxillary Sinus Tumors.

Author(s): Ting, Darren Shu Jeng; Rana-Rahman, Romeela; Ng, Jia Yu; Wilkinson, David J P; Ah-Kine, Desiree; Patel, Trushar

Source: Ocular oncology and pathology; Mar 2021; vol. 7 (no. 1); p. 36-43

Publication Date: Mar 2021

Publication Type(s): Journal Article

PubMedID: 33796515

Available at Ocular oncology and pathology - from Unpaywall

Abstract:

Purpose: To highlight the clinical spectrum, management, and outcomes of ocular/periocular complications following high-dose external-beam radiotherapy (EBRT) for inoperable malignant maxillary sinus-involving tumors (MMST).

Methods: A retrospective, interventional case series. All patients who were diagnosed with inoperable MMST (with orbital involvement) and treated with high-dose fractionated EBRT (65 Gy in 30 fractions) at James Cook University Hospital, UK, were included.

Results: Seven patients with advanced MMST (T4aN0M0-T4bN2cM0) were included and were followed up for 23.8 ± 10.2 months. Severe lid margin disease, dry eye, and neurotrophic keratopathy were universally observed. Other complications included cicatricial conjunctivitis (71%), corneal perforation (57%), limbal stem cell deficiency (LSCD; 43%), glaucoma (29%), and superimposed candida keratitis (14%). Amniotic membrane transplant (AMT; 71%), tarsorrhaphy (43%), tectonic keratoplasty (29%), and evisceration (14%) were warranted. Intact corneal epithelium was observed in all patients and good corrected-distance visual acuity (≥20/60) was observed in 3 (43%) patients at final follow-up.

Conclusion: High-dose EBRT for inoperable MMST can lead to a wide array of severe ocular/periocular complications. AMT serves as a potentially useful treatment modality to restore the ocular surface integrity after severe radiation keratopathy. We advocate active monitoring for any evolving ophthalmic complications during and after EBRT to enable timely intervention.

Database: Medline

20. Optical Coherence Tomography Biomarkers - Vitreous Status Influence in Outcomes for Diabetic Macular Edema Therapy with 0.19 mg Fluocinolone Acetonide Implant.

Author(s): Pessoa, Bernardete; Ferreira, André; Leite, João; Figueira, João; Meireles, Angelina; Beirão, João Nuno Melo

Source: Ophthalmic research; Feb 2021

Publication Date: Feb 2021

Publication Type(s): Journal Article

PubMedID: 33601389

Available at Ophthalmic research - from Unpaywall

Abstract:

BACKGROUND: The 0.19 mg fluocinolone acetonide (FAc) implant (ILUVIEN®; Alimera Sciences Ltd, Hampshire, UK) was approved for the treatment of vision impairment associated with chronic and refractory diabetic macular edema (DME).

OBJECTIVES: To quantitatively assess functional and structural features in non-vitrectomized and vitrectomized DME patients after being treated with a FAc implant Methods: Retrospective review of patients with DME receiving single intravitreal injection of the FAc implant. The study was designed to analyze the presence of quantitative structural OCT biomarkers at baseline and 12 months after FAc therapy according to vitreous status.

RESULTS: A total of 41 eyes from 30 patients were included in this study. At 12 months post-injection, vitrectomized patients had a lower central foveal thickness (CFT, p=0.017) and fewer hyperreflective dots (HRD, p=0.028) compared with non-vitrectomized. Thirty (73%) patients presented a significant functional improvement with 17 (42%) increasing at least 15 ETDRS letters. Overall, 22 (54%) eyes had a complete resolution of DME at 12 months visit. Patients who needed additional therapy had a higher prevalence of subretinal fluid (SRF, 42% vs 3% p=0.005) at baseline.

CONCLUSIONS: This study supports the effectiveness of the FAc implant and reports significant changes at 12 months post-FAc injection.

Database: Medline

21. Ocular Phenotype Associated with DYRK1A Variants.

Author(s): Méjécase, Cécile; Way, Christopher M; Owen, Nicholas; Moosajee, Mariya

Source: Genes; Feb 2021; vol. 12 (no. 2)

Publication Date: Feb 2021

Publication Type(s): Journal Article

PubMedID: 33562844

Available at Genes - from Europe PubMed Central - Open Access

Available at Genes - from Unpaywall

Abstract: Dual-specificity tyrosine phosphorylation-regulated kinase 1A or DYRK1A, contributes to central nervous system development in a dose-sensitive manner. Triallelic DYRK1A is implicated in the neuropathology of Down syndrome, whereas haploinsufficiency causes the rare DYRK1A-related intellectual disability syndrome (also known as mental retardation 7). It is characterised by intellectual disability, autism spectrum disorder and microcephaly with a typical facial gestalt. Preclinical studies elucidate a role for DYRK1A in eye development and case studies have reported associated ocular pathology. In this study families of the DYRK1A Syndrome International Association were asked to self-report any co-existing ocular abnormalities. Twenty-six patients responded but only 14 had molecular confirmation of a DYRK1A pathogenic variant. A further nineteen patients from the UK Genomics England 100,000 Genomes Project were identified and combined with 112 patients reported in the literature for further analysis. Ninety out of 145 patients (62.1%) with heterozygous DYRK1A variants revealed ocular features, these ranged from optic nerve hypoplasia (13%, 12/90), refractive error (35.6%, 32/90) and strabismus (21.1%, 19/90). Patients with DYRK1A variants should be referred to ophthalmology as part of their management care pathway to prevent amblyopia in children and reduce visual comorbidity, which may further impact on learning, behaviour, and quality of life.

Database: Medline

22. Paediatric periorbital cellulitis: A 10-year retrospective case series review.

Author(s): Murphy, Declan C; Meghji, Sheneen; Alfiky, Mohamed; Bath, Andrew P

Source: Journal of paediatrics and child health; Feb 2021; vol. 57 (no. 2); p. 227-233

Publication Date: Feb 2021

Publication Type(s): Journal Article

PubMedID: 32987452

Available at Journal of paediatrics and child health - from Wiley Online Library

Available at Journal of paediatrics and child health - from Unpaywall

Abstract:

AIM: To identify the predictors of poor outcome and need for surgical management in paediatric patients with periorbital cellulitis. To assess the adherence to local guidelines in the management of periorbital cellulitis.

METHODS: Retrospective descriptive analysis of clinical, laboratory and radiological characteristics of 175 paediatric periorbital cellulitis presentations at a UK teaching hospital over a 10-year period. Regression investigated correlations for continuous and categorical variables.

RESULTS: A total of 175 paediatric presentations were diagnosed as periorbital infections over the 10-year period. Of these, 139 had pre-septal cellulitis, 27 had a subperiosteal abscess, 6 had an orbital cellulitis, 1 had an orbital abscess, 1 a cavernous sinus thrombosis and 1 an extradural abscess. Median age at presentation was 5 years (range: 1 month-17 years). In total, 169 (97%) cases received systemic antimicrobial treatment. Cross-sectional imaging occurred in 30% of cases and 18% required surgical intervention. Increasing C-reactive protein was associated with greater risk of post-septal disease and requiring surgery. The best predictors of post-septal disease in the multivariate analysis (R2 = 0.49, P = ≤0.001) were ophthalmoplegia (P = 0.009), proptosis (P = 0.016) and pain on eye movement (P = 0.046). Proptosis was the single most significant predictor of surgical management (R2 = 0.53, P = <0.001).

CONCLUSION: Multidisciplinary involvement and early medical management can improve outcomes for most patients. Those who deteriorate despite medical management should be considered for prompt imaging and surgical management to avoid serious life-threatening or sight-threatening complications.

Database: Medline

23. Development of the HUman Factors in intraoperative Ophthalmic Emergencies Scoring System (HUFOES) for non-technical skills in cataract surgery.

Author(s): Wood, Thomas Charles; Maqsood, Sundas; Zoutewelle, Stephanie; Nanavaty, Mayank A; Rajak, Saul

Source: Eye (London, England); Feb 2021; vol. 35 (no. 2); p. 616-624

Publication Date: Feb 2021

Publication Type(s): Journal Article

PubMedID: 32371930

Abstract:

BACKGROUND: Nontechnical skills (NTS) are fundamental for successfully managing intraoperative complications. We aimed to develop the HUman Factors in intraoperative Ophthalmic Emergencies Scoring System (HUFOES); an NTS assessment system for posterior capsule rupture (PCR) during cataract surgery.

METHODS: A literature review and a focus group consisting of three cataract surgeons and one NTS researcher elicited the important NTS for the management of intraoperative cataract surgery complications. A novel taxonomy of NTS specific for PCR management was generated. Questionnaires were distributed to ophthalmologists in one UK training region. Delphi methodology was used to develop a final HUFOES draft. One further questionnaire was used to gain feasibility, educational impact and validity data.

RESULTS: All HUFOES components achieved a mean importance rating of >8/10 and achieved high interrater agreement ratings (α = 0.953). Interrater agreement scores for HUFOES categories were: teamwork and communication (α = 0.819), leadership (α = 0.859), decision making (α = 0.753), situational awareness (α = 0.840) and professionalism (α = 0.890). In all, 92.8% (n = 13) rated HUFOES as specific for use, 85.7% (n = 12) agreed it contains appropriate assessment measures, 92.8% (n = 13) agreed that training with HUFOES would enhance preparation for PCR management and 78.6% (n = 11) declared HUFOES as the preferable training system for NTS in intraoperative ophthalmic emergencies when compared with the current gold standard.

CONCLUSIONS: HUFOES has been developed and validated as a tool for the training and assessment of NTS in PCR. An NTS training programme integrated with HUFOES should be considered in order to enhance surgical NTS for managing intraoperative complications, and improve performance and outcomes following PCR.

Database: Medline

24. The incidence and management of persistent cystoid macular oedema following uncomplicated cataract surgery-a Scottish Ophthalmological Surveillance Unit study.

Author(s): Erikitola, Ore-Oluwa; Siempis, Thomas; Foot, Barny; Lockington, David

Source: Eye (London, England); Feb 2021; vol. 35 (no. 2); p. 584-591

Publication Date: Feb 2021

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 32376978

Available at Eye (London, England) - from Unpaywall

Abstract:

PURPOSE: Post-operative cystoid macular oedema (CMO) can cause deterioration of vision following routine cataract surgery. The incidence of persistent CMO (pCMO; defined as CMO present after 3 months) following uncomplicated surgery is uncertain. We wished to identify the incidence, management and visual outcomes of such patients.

METHODS: A Scottish Ophthalmological Surveillance Unit (SOSU) questionnaire was sent monthly to every ophthalmic specialist in Scotland over an 18-month period from 1st January 2018 asking them to report all new patients with pCMO confirmed on OCT scanning following uncomplicated cataract surgery. A follow-up questionnaire was sent 9 months after initial presentation.

RESULTS: Fourteen cases of pCMO were reported, giving an incidence of 2.2 cases of pCMO per 10,000 uncomplicated cataract surgeries. Mean age was 74.9 years (SD 10.2; range 44-86) with a male preponderance (72.7%). Two patients developed pCMO in each eye. Six cases (46.2%) had hypertension and one had diabetes. Three eyes required intracameral adjuncts (two iris hooks, one intracameral phenylephrine). Postoperative visual acuity (VA) at 3 months was logMAR 0.48 (0.2-0.8). Average mean central retinal thickness (CRT) at 3 months was 497microns (270-788). The most common initial treatment comprised topical steroids and topical NSAIDs (61.5%). Other management strategies included systemic steroids, intravitreal steroids and oral acetazolamide. At 1-year post-op, mean VA was logMAR 0.18 (0.1-0.3) with average mean CRT of 327microns (245-488).

CONCLUSIONS: We identified a low incidence of pCMO following uncomplicated cataract surgery in Scotland (0.02%), with inconsistent and variable management regimes. A nationally agreed treatment protocol is required.

Database: Medline

25. Community optometrist-led post-operative cataract care: how many patients re-present to the hospital ophthalmic department?

Author(s): O'Regan, Amy; McGlacken-Byrne, Aisling; Chetty, Shivona; Mullaney, Paul

Source: Irish journal of medical science; Jan 2021

Publication Date: Jan 2021

Publication Type(s): Journal Article

PubMedID: 33495971

Available at Irish journal of medical science - from Unpaywall

Abstract:

BACKGROUND: Cataract surgery represents a significant workload for ophthalmologists in Ireland. Post-operative shared care with community optometrists can reduce the need for hospital follow-up appointments.

AIMS: Eight years after the introduction of a shared-care pathway, we wished to quantify the proportion of patients discharged to the community for post-operative follow-up, and the number that re-present to the hospital due to cataract-related issues.

METHODS: We collected data on all patients who underwent cataract surgery in our centre over a three month period. Electronic patient records were used to establish whether the patient was discharged on the day of surgery, and whether they re-attended the department post-operatively. Post-operative complications were recorded.

RESULTS: 394 cataract procedures were carried out over the three months. 369 patients were discharged to an optometrist for their post-operative care. Of those, 38 were re-referred or re-presented to the hospital ophthalmic service. 21 of these had a post-operative complication. Complications included seven cases of post-operative uveitis, 5 patients with cystoid macular oedema, one retinal detachment and one retained lens fragment.

CONCLUSIONS: Community optometrist-led post-operative care for uncomplicated patients is an effective way of reducing the workload associated with cataract surgery. Re-referral pathways must be in place to facilitate timely management of post-operative complications.

Database: Medline

26. Clinical Spectrum and Genetic Diagnosis of 54 Consecutive Patients Aged 0-25 with Bilateral Cataracts.

Author(s): Bell, Suzannah; Malka, Samantha; Lloyd, Ian Christopher; Moosajee, Mariya

Source: Genes; Jan 2021; vol. 12 (no. 2)

Publication Date: Jan 2021

Publication Type(s): Journal Article

PubMedID: 33494148

Available at Genes - from Europe PubMed Central - Open Access

Available at Genes - from Unpaywall

Abstract: Childhood cataract affects 2.5-3.5 per 10,000 children in the UK, with a genetic mutation identified in 50-90% of bilateral cases. However, cataracts can also manifest in adolescence and early adulthood in isolation, as part of a complex ocular phenotype or with systemic features making accurate diagnosis more challenging. We investigate our real-world experience through a retrospective review of consecutive bilateral cataract patients (0-25 years) presenting to the ocular genetics service at Moorfields Eye Hospital between 2017 and 2020. Fifty-four patients from 44 unrelated families were identified, with a median age of 13.5 years (range 1 to 68 years) and a median age at diagnosis of 43.9 months IQR (1.7-140.3 months); 40.7% were female and 46.3% were Caucasian. Overall, 37 patients from 27 families (61.4%) were genetically solved (50%) or likely solved (additional 11.4%), with 26 disease-causing variants (8 were novel) in 21 genes; the most common were crystallin genes, in 8 (29.6%) families, with half occurring in the CRYBB2 gene. There was no significant difference in the molecular diagnostic rates between sporadic and familial inheritance (P = 0.287). Associated clinical diagnoses were retinal dystrophies in five (18.5%) and aniridia in three (11.1%) families. Bilateral cataracts were the presenting feature in 27.3% (6/22) of either complex or syndromic cases, and isolated cataract patients were 11.5 years younger (rank-sum Z = 3.668, P = 0.0002). Prompt genetic investigation with comprehensive panel testing can aid with diagnosis and optimise management of cataract patients.

Database: Medline

27. Hearing and vision care provided to older people residing in care homes: a cross-sectional survey of care home staff.

Author(s): Andrusjak, Wendy; Barbosa, Ana; Mountain, Gail

Source: BMC geriatrics; Jan 2021; vol. 21 (no. 1); p. 32

Publication Date: Jan 2021

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 33419404

Available at BMC geriatrics - from BioMed Central

Available at BMC geriatrics - from Europe PubMed Central - Open Access

Available at BMC geriatrics - from ProQuest (Health Research Premium) - NHS Version

Available at BMC geriatrics - from EBSCO (MEDLINE Complete)

Available at BMC geriatrics - from Unpaywall

Abstract:

BACKGROUND: Hearing and vision loss in older people has been proven to affect physical and mental health and increase the speed of cognitive decline. Studies have demonstrated that certain practices and improved staff knowledge increase the effective care of residents' ears and eyes, yet it is not known which practices are being implemented in care homes. This study aimed to identify the gaps in staff knowledge regarding hearing and vision difficulties in older residents, and which practices known to improve ear and eye care in older care home residents are not commonly implemented in care homes in England.

METHODS: This study used a cross-sectional survey design. Survey questions were informed by the existing literature and were focused on practices, staff knowledge, and other aspects that have shown to affect residents' hearing and vision care. A convenience sample of care home staff were recruited from care homes across England between November 2018 and February 2019 via email and in paper format. Descriptive statistics and Chi-Square analysis were applied to identify the factors influencing the care being provided to care home residents.

RESULTS: A total of 400 care home staff responded from 74 care homes. The results revealed that less than half of staff respondents reported to use screening tools to identify hearing (46%) and vision impairments (43.8%); that care homes rarely have access to other assistive devices for hearing (16%) and vision loss (23.8%), and that audiology services do not regularly assess care home residents (46.8%). A majority of staff who responded were not confident in ear and eye care. Responses were found to be influenced by the respondents' job role, length of time working in care homes and also the care home type. Findings confirmed a lack of standardised practice and the importance of shared communication for promulgation of best practice.

CONCLUSION: This study has identified that some practices known to facilitate ear and eye care are not commonly applied in a sample of English care homes. It has also shown that care home staff knowledge of ear and eye care is inconsistent. The information derived from this survey can be used to inform guidelines for best practice and inform needs for future research.

Database: Medline

28. Femtosecond laser-assisted cataract surgery compared with phacoemulsification: the FACT non-inferiority RCT.

Author(s): Day, Alexander C; Burr, Jennifer M; Bennett, Kate; Hunter, Rachael; Bunce, Catey; Doré, Caroline J; Nanavaty, Mayank A; Balaggan, Kamaljit S; Wilkins, Mark R

Source: Health technology assessment (Winchester, England); Jan 2021; vol. 25 (no. 6); p. 1-68

Publication Date: Jan 2021

Publication Type(s): Journal Article

PubMedID: 33511963

Available at Health technology assessment (Winchester, England) - from Unpaywall

Abstract:

BACKGROUND: Cataract surgery is one of the most common operations. Femtosecond laser-assisted cataract surgery (FLACS) is a technique that automates a number of operative steps.

OBJECTIVES: To compare FLACS with phacoemulsification cataract surgery (PCS).

DESIGN: Multicentre, outcome-masked, randomised controlled non-inferiority trial.

SETTING: Three collaborating NHS hospitals.

PARTICIPANTS: A total of 785 patients with age-related cataract in one or both eyes were randomised between May 2015 and September 2017.

INTERVENTION: FLACS (n = 392 participants) or PCS (n = 393 participants).

MAIN OUTCOME MEASURES: The primary outcome was uncorrected distance visual acuity in the study eye after 3 months, expressed as the logarithm of the minimum angle of resolution (logMAR): 0.00 logMAR (or 6/6 if expressed in Snellen) is normal (good visual acuity). Secondary outcomes included corrected distance visual acuity, refractive outcomes (within 0.5 dioptre and 1.0 dioptre of target), safety and patient-reported outcome measures at 3 and 12 months, and resource use. All trial follow-ups were performed by optometrists who were masked to the trial intervention.

RESULTS: A total of 353 (90%) participants allocated to the FLACS arm and 317 (81%) participants allocated to the PCS arm attended follow-up at 3 months. The mean uncorrected distance visual acuity was similar in both treatment arms [0.13 logMAR, standard deviation 0.23 logMAR, for FLACS, vs. 0.14 logMAR, standard deviation 0.27 logMAR, for PCS, with a difference of -0.01 logMAR (95% confidence interval -0.05 to 0.03 logMAR; p = 0.63)]. The mean corrected distance visual acuity values were again similar in both treatment arms (-0.01 logMAR, standard deviation 0.19 logMAR FLACS vs. 0.01 logMAR, standard deviation 0.21 logMAR PCS; p = 0.34). There were two posterior capsule tears in the PCS arm. There were no significant differences between the treatment arms for any secondary outcome at 3 months. At 12 months, the mean uncorrected distance visual acuity was 0.14 logMAR (standard deviation 0.22 logMAR) for FLACS and 0.17 logMAR (standard deviation 0.25 logMAR) for PCS, with a difference between the treatment arms of -0.03 logMAR (95% confidence interval -0.06 to 0.01 logMAR; p = 0.17). The mean

corrected distance visual acuity was 0.003 logMAR (standard deviation 0.18 logMAR) for FLACS and 0.03 logMAR (standard deviation 0.23 logMAR) for PCS, with a difference of -0.03 logMAR (95% confidence interval -0.06 to 0.01 logMAR; p = 0.11). There were no significant differences between the arms for any other outcomes, with the exception of the mean binocular corrected distance visual acuity with a difference of -0.02 logMAR (95% confidence interval -0.05 to 0.00 logMAR) (p = 0.036), which favoured FLACS. There were no significant differences between the arms for any health, social care or societal costs. For the economic evaluation, the mean cost difference was £167.62 per patient higher for FLACS (95% of iterations between -£14.12 and £341.67) than for PCS. The mean QALY difference (FLACS minus PCS) was 0.001 (95% of iterations between -0.011 and 0.015), which equates to an incremental cost-effectiveness ratio (cost difference divided by QALY difference) of £167,620.LIMITATIONSAlthough the measurement of outcomes was carried out by optometrists who were masked to the treatment arm, the participants were not masked.

CONCLUSIONS: The evidence suggests that FLACS is not inferior to PCS in terms of vision after 3 months' follow-up, and there were no significant differences in patient-reported health and safety outcomes after 12 months' follow-up. In addition, the statistically significant difference in binocular corrected distance visual acuity was not clinically significant. FLACS is not cost-effective.

FUTURE WORK: To explore the possible differences in vision in patients without ocular co-pathology.

TRIAL REGISTRATION: Current Controlled Trials ISRCTN77602616.

FUNDING: This project was funded by the National Institute for Health Research (NIHR) Health Technology Assessment programme and will be published in full in Health Technology Assessment; Vol. 25, No. 6. See the NIHR Journals Library website for further project information. Moorfields Eye Charity (grant references GR000233 and GR000449 for the endothelial cell counter and femtosecond laser used).

Database: Medline

29. Clinical Characteristics of Patients With Chronic Stevens-Johnson Syndrome Treated at a Major Tertiary Eye Hospital Within the United Kingdom.

Author(s): Jabbour, Samir; Din, Nizar; Logeswaran, Abison; Taberno Sanchez, Sara; Ahmad, Sajjad

Source: Frontiers in medicine; 2021; vol. 8 ; p. 644795

Publication Date: 2021

Publication Type(s): Journal Article

PubMedID: 34109192

Available at Frontiers in medicine - from Europe PubMed Central - Open Access

Available at Frontiers in medicine - from Unpaywall

Abstract: The purpose of this study is to provide a comprehensive review of the clinical characteristics in chronic Stevens-Johnson syndrome (SJS) patients within the United Kingdom population, their causative factors, treatment profile and prognosis. This retrospective series included 91 patients with chronic SJS treated at Moorfields Eye Hospital (London, United Kingdom). A chart review included visual acuity and presence of clinical findings (including lid abnormalities and ocular surface findings). All medical and surgical treatments were also recorded. Approximately a half of patients were White British but there were significant numbers of patients from other ethnic groups, South Asian and Black in particular. Oral antibiotics were the causative agent in almost a half of the patients with SJS, systemic infections in 14%, non-steroidal anti-inflammatory drugs in 8% and anticonvulsants in 7%. The age of onset was varied but a significant proportion of patients developed acute SJS in childhood. There was a significant correlation between visual acuity at initial referral to final recorded vision. Vision was found to continue to significantly deteriorate over time despite therapeutic interventions. Our regression model shows that ~62% of the variance in final vision can be explained by the initial vision and duration disease. The majority of our patients were on advanced ocular surface treatments including serum drops, topical ciclosporin and retinoic acid drops. Of particular significance, approximately a third of our patient cohort was also on systemic immune suppression. In conclusion, chronic SJS within the UK population under tertiary care remains an area of unmet clinical need. Current medical and surgical modalities prevent worsening of vision in severe ocular disease from SJS.

Database: Medline

30. Factors Influencing Response to Aflibercept in Diabetic Macular Oedema Patients in a Diverse North West London Population: A Real-World Study.

Author(s): Sim, Sing Yue; Ghulakhszian, Arevik; Minocha, Amal; Ramcharan, Dhannie; Nokhostin, Soroush; Cheong-Leen, Richard; George, Sheena; Posner, Esther; Dinah, Christiana

Source: Clinical ophthalmology (Auckland, N.Z.); 2021; vol. 15 ; p. 2089-2097

Publication Date: 2021

Publication Type(s): Journal Article

PubMedID: 34045845

Available at Clinical ophthalmology (Auckland, N.Z.) - from Europe PubMed Central - Open Access

Available at Clinical ophthalmology (Auckland, N.Z.) - from Unpaywall

Abstract:

Background: Diabetic macular oedema (DMO) is the leading cause of sight impairment in working age populations in developed countries. Current first line treatment for centre-involving DMO involves intravitreal anti-VEGF but treatment response can be variable. In this retrospective, real world, multi-centre cohort study, we aim to identify ocular and systemic characteristics that correlate with anatomical and functional outcomes for treatment-naive DMO patients treated with intravitreal aflibercept.

Methods: Retrospective multicentre cohort study of treatment-naive DMO patients initiated on aflibercept at three North West London hospitals between 2016 and 2018. Baseline systemic and ocular factors, best corrected visual acuity (BCVA) and central macular thickness (CMT) at 12 months were determined and statistically analysed.

Results: A total of 270 eyes of 221 DMO patients met inclusion criteria. Mean age was 62.8 ± 12.1, mean baseline HbA1c was 67 ± 20 mmol/mol, and mean eGFR was 72 mL/min/1.7m2. Mean number of aflibercept injections at 12 months was 6.2. Better baseline BCVA, lower baseline CMT, and absence of epiretinal membrane (ERM) were associated with better BCVA at 12 months whilst lower baseline CMT and proliferative retinopathy status were associated with lower CMT at 12 months.

Conclusion: Our study is the largest real-world dataset examining factors influencing functional and anatomical response to aflibercept in DMO in the UK. Older age, lower baseline BCVA, higher baseline CMT and more severe diabetic retinopathy were associated with poorer visual acuity at 12 months and prioritisation of these patients within a pressured healthcare setting is recommended.

Database: Medline

31. Retinal arteriolar calibre and venular fractal dimension predict progression of proliferative diabetic retinopathy 6 months after panretinal photocoagulation: a prospective, clinical interventional study.

Author(s): Torp, Thomas Lee; Kawasaki, Ryo; Wong, Tien Yin; Peto, Tunde; Grauslund, Jakob

Source: BMJ open ophthalmology; 2021; vol. 6 (no. 1); p. e000661

Publication Date: 2021

Publication Type(s): Journal Article

PubMedID: 33786381

Available at BMJ open ophthalmology - from Unpaywall

Abstract:

Objective: We examined the hypothesis that baseline retinal vascular geometry in patients with proliferative diabetic retinopathy (PDR) predicts disease activity 6 months after panretinal photocoagulation (PRP).

Methods and analysis: We included 47 eyes from 40 patients with treatment-naïve PDR in a 6-month prospective study. Diagnosis of PDR and disease activity was evaluated by wide-field fluorescein angiography (Optomap, Optos, Dunfermline, Scotland, UK). At baseline and 6-month follow-up, the retinal vessel geometry was measured on optic disc centred images using semiautomated software Vessel Assessment and Measurement Platform for Images of the Retina (VAMPIRE, Dundee, Scotland).

Results: At baseline, mean age and duration of diabetes was 51.6 and 21.4 years, and 62.5% were men. Seventeen eyes (36.2%) had progression of PDR during follow-up. At baseline, we found higher retinal arteriolar calibre (31.3±0.8 vs 28.8±0.8 pixels, p=0.02) and venous fractal dimension (FD) (1.257±0.011 vs 1.222±0.011, p=0.02) in eyes with progression of PDR as compared with eyes with non-progression. In a multiple logistic regression model, both higher retinal arteriolar calibre (OR 1.34, 95% CI, 1.09 to 1.64, p<0.01) and venular FD (OR 1.15, 95% CI, 1.04 to 1.27, p<0.01) predicted progression of PDR. Venular calibre was seen to increase from baseline to month six regardless of disease progression (non-progression 45.0±0.7 vs 52.7±1.8 pixels, p<0.01; progression 46.2±0.8 vs 51.0±1.7 pixels, p<0.01).

Conclusion: Our prospective study showed that arteriolar calibre and venular FD at baseline were predictive of disease activity 6 months after PRP treatment in patients with treatment-naïve PDR.

Database: Medline

32. Selective laser trabeculoplasty (SLT) performed by optometrists for patients with glaucoma and ocular hypertension: a scoping review.

Author(s): Jones, Lee; Konstantakopoulou, Evgenia; Gazzard, Gus

Source: BMJ open ophthalmology; 2021; vol. 6 (no. 1); p. e000611

Publication Date: 2021

Publication Type(s): Journal Article Review

PubMedID: 33782653

Available at BMJ open ophthalmology - from Unpaywall

Abstract: Selective laser trabeculoplasty (SLT) has been established as an effective treatment to lower intraocular pressure in people with glaucoma and ocular hypertension. The procedure is typically within the remit of ophthalmologists; however, there is potential to upskill optometrists and other healthcare professionals (HCPs) to deliver the treatment. We conducted a scoping review to identify the current global landscape of HCP-delivered SLT and describe training features, clinical effectiveness and safety. Relevant articles were identified through online database searches and grey literature sources. Four articles were selected for full inclusion. This review identified training programmes for optometrist-delivered SLT in the UK and the USA. The findings indicate that more research is needed to clarify training requirements and clinical effectiveness.

Database: Medline

33. Irish National Diabetic RetinaScreen Programme: report on five rounds of retinopathy screening and screen-positive referrals. (INDEAR study report no. 1).

Author(s): Pandey, Rajiv; Morgan, Margaret M; Murphy, Colette; Kavanagh, Helen; Acheson, Robert; Cahill, Mark; McGettrick, Patricia; O'Toole, Louise; Hamroush, Fatima; Mooney, Therese; Byrne, Helen; Fitzpatrick, Patricia; Keegan, David J

Source: The British journal of ophthalmology; Dec 2020

Publication Date: Dec 2020

Publication Type(s): Journal Article

PubMedID: 33334818

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

OBJECTIVE: To study the uptake of annual diabetic retinopathy screening and study the 5-year trends in the detection of screen-positive diabetic retinopathy and non-diabetes-related eye disease in a cohort of annually screened individuals.

DESIGN: Retrospective retinopathy screening attendance and retinopathy grading analysis.

SETTING: Community-based retinopathy screening centres for the Diabetic RetinaScreen Programme.

PARTICIPANTS: 171 557 were identified by the screening programme to be eligible for annual diabetic retinopathy screening. 120 048 individuals over the age of 12 consented to and attended at least one screening appointment between February 2013 to December 2018.

MAIN OUTCOME MEASURES: Detection rate per 100 000 of any retinopathy, screen-positive referrable retinopathy and nondiabetic eye disease.

RESULTS: Uptake of screening had reached 67.2% in the fifth round of screening. Detection rate of screen-positive retinopathy reduced from 13 229 to 4237 per 100 000 screened over five rounds. Detection of proliferative disease had reduced from 2898 to 713 per 100 000 screened. Non-diabetic eye disease detection and referral to treatment centres increased almost eightfold from 393 in round 1 to 3225 per 100 000 screened. The majority of individuals referred to treatment centres for ophthalmologist assessment are over the age of 50 years.

CONCLUSIONS: Screening programme has seen a reduced detection rate both screen-positive retinopathy referral in Ireland over five rounds of screening. Management of nondiabetic eye diseases poses a significant challenge in improving visual outcomes of people living with diabetes in Ireland.

Database: Medline

34. Visual field progression 8 years after trabeculectomy in Asian eyes: results from The Singapore 5-Fluorouracil Study.

Author(s): Ang, Bryan C H; Seen, Sophia; Kumaran, Arjunan; De Leon, John Mark Sim; Seah, Steve Kah Leng; Foster, Paul J; Gazzard, Gus; Htoon, Hla M; Khaw, Peng Tee; Aung, Tin; Husain, Rahat

Source: The British journal of ophthalmology; Dec 2020; vol. 104 (no. 12); p. 1690-1696

Publication Date: Dec 2020

Publication Type(s): Journal Article

PubMedID: 32139502

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from ProQuest (Health Research Premium) - NHS Version

Available at The British journal of ophthalmology - from ProQuest (MEDLINE with Full Text) - NHS Version

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND/AIMS: This work aimed to study the effect of long-term intraocular pressure (IOP) fluctuation on visual field (VF) progression 8 years post-trabeculectomy in Asian eyes.

METHODS: This was a retrospective analysis of 8-year post-trabeculectomy data from The Singapore 5-Fluorouracil (5-FU) Study. VFs were analysed using Progressor software (Medisoft, Leeds, UK). Outcome measures included mean slope for VF per year, number of progressing points and mean slope for progressing points per year. Multivariate regression analyses were performed adjusting for age, gender, ethnicity, glaucoma type, intraoperative 5-FU, diabetes mellitus, hypertension, best pre-trabeculectomy VF mean deviation, post-trabeculectomy mean IOP, IOP reduction and IOP fluctuation (SD of IOPs at 6-monthly timepoints).

RESULTS: 127 (52.3%) subjects completed 8-year follow-up with ≥5 reliable VFs and ≥8 6-monthly IOP measurements. Mean age was 61.8±9.6 years. Post-operatively, mean IOP was 14.2±2.8 mm Hg and mean IOP

fluctuation was 2.53±1.20 mm Hg. Higher IOP fluctuation was associated with greater mean slope for field (B=-0.071; p=0.013), number of progressing points (B=0.963; p=0.014) and VF progression as defined by ≥1 progressing point (OR=1.585; p=0.029). There was also a trend towards eyes with higher IOP fluctuation having ≥3 adjacent progressing points in the same hemifield (OR=1.489; p=0.055). Greater mean IOP reduction post-trabeculectomy was associated only with a lower mean slope for progressing points per year (B=-0.026; p=0.028). There was no significant effect of intra-operative 5-FU compared with placebo for all outcome measures.

CONCLUSION: In post-trabeculectomy Asian eyes with well-controlled IOP, higher long-term IOP fluctuation may be associated with greater VF progression.

Database: Medline

35. Macula service evaluation and assessing priorities for anti-VEGF treatment in the light of COVID-19.

Author(s): Stone, Lydia G; Devenport, Adele; Stratton, Irene M; Talks, James S

Source: Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie; Dec 2020; vol. 258 (no. 12); p. 2639-2645

Publication Date: Dec 2020

Publication Type(s): Journal Article

PubMedID: 32712708

Available at Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie - from Unpaywall

Abstract:

PURPOSE: To assess the treatment position of all patients who have had an anti-VEGF injection in 2020, prior to the UK lockdown on 23 March. To assess methods of service quality evaluation in setting benchmarks for comparison after the situation stabilized. To consider what proportion could be delayed based on national guidelines and varying vision parameters. Finally, to measure how many patients actually attended.

METHOD: A retrospective analysis of data collected from our electronic medical record was performed. Age, sex, reason for injection, visual acuity (VA) for both treated and untreated eyes and number of injections were recorded. The proportion of patients and eyes with ≥ 70 letters were calculated as an assessment of quality of service provision. The proportion of patients that could be delayed was estimated based on published guidelines and varying the parameters of difference between treated and untreated eyes. Finally, the number of patients who actually attended was recorded.

RESULTS: About 3364 eyes (2229 neovascular age-related macular degeneration (nAMD), 427 diabetic macular oedema (DMO), 599 retinal vein occlusion (RVO) and 109 other) from 2924 patients were analysed. At the last appointment with injection, 64.4% of patients achieved ≥ 70 letters in their better-seeing eye. Mean VA of the treated eye was 61.5 letters, and 36.9% achieved ≥ 70. The mean number of injections was 16, 90% with aflibercept. Of the patients receiving treatment to one eye, 57.6% was receiving treatment to their worse seeing eye. In 18.2% this eye was > 20 letters worse and in 5.07% > 40 letters worse than the untreated eye. Using Royal College of Ophthalmologists (RCOphth) guidelines, (treat nAMD 8 weekly, delay majority of RVO and DMO) 24.8% would be delayed. From 2738 appointments during the first 4 weeks of lockdown (booked prior to lockdown), doctors rescheduled 1025 and patients did not attend 820, leaving 893 who were seen (33%).

CONCLUSIONS: Assessing the treatment position of patients prior to COVID-19 lockdown enables objective stratification for prioritization for continued treatment. If RCOphth guidelines were followed 24.8% could be delayed and if treating the worse seeing eye up to 57.6%. Many scheduled patients elected not to attend, with 67% not seen in the first 4 weeks. The impact of non-attendance and delays may be evaluated later.

Database: Medline

36. Long-term visual and treatment outcomes of whole-population pre-school visual screening (PSVS) in children: a longitudinal, retrospective, population-based cohort study.

Author(s): O'Colmain, Una; Neo, Yan Ning; Gilmour, Claire; MacEwen, Caroline J

Source: Eye (London, England); Dec 2020; vol. 34 (no. 12); p. 2315-2321

Publication Date: Dec 2020

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 32099079

Available at Eye (London, England) - from Unpaywall

Abstract:

BACKGROUND: This study reports the long-term visual and treatment outcomes in a whole-population, orthoptic-delivered pre-school visual screening (PSVS) programme in Scotland and further examines their associations with socioeconomic backgrounds and home circumstances.

METHODS: Retrospective case review was conducted on 430 children who failed PSVS. Outcome measures included best corrected visual acuity (BCVA), severity of amblyopia (mild, moderate and severe), binocular vision (BV) (normal, poor and none), ophthalmic diagnosis and treatment modalities. Parameters at discharge were compared to those at baseline and were measured against the Scottish index of multiple deprivation (SIMD) and Health plan indicator (HPI), which are indices of deprivation and status of home circumstances.

RESULTS: The proportion of children with amblyopia reduced from 92.3% (373/404) at baseline to 29.1% (106/364) at discharge ($p < 0.001$). Eighty percent (291/364) had good BV at discharge compared to 29.2% (118/404) at baseline ($p < 0.001$). Children from more socioeconomically deprived areas (OR 2.19, 95% CI 1.01-4.30, $p = 0.003$) or adverse family backgrounds (OR 3.94, 95% CI 1.99-7.74, $p = 0.002$) were more likely to attend poorly and/or become lost to follow-up. Children from worse home circumstances were five times more likely to have residual amblyopia (OR 5.37, 95% CI 3.29-10.07, $p < 0.001$) and three times more likely to have poor/no BV (OR 3.41, 95% CI 2.49-4.66, $p < 0.001$) than those from better home circumstances.

CONCLUSIONS: Orthoptic-delivered PSVS is successful at screening and managing amblyopia. Children from homes requiring social care input are less likely to attend and are more likely to have poorer visual outcomes.

Database: Medline

37. Cataract management in children: a review of the literature and current practice across five large UK centres.

Author(s): Self, J E; Taylor, R; Solebo, A L; Biswas, S; Parulekar, M; Dev Borman, A; Ashworth, J; McClenaghan, R; Abbott, J; O'Flynn, E; Hildebrand, D; Lloyd, I C

Source: Eye (London, England); Dec 2020; vol. 34 (no. 12); p. 2197-2218

Publication Date: Dec 2020

Publication Type(s): Journal Article Review

PubMedID: 32778738

Available at Eye (London, England) - from Unpaywall

Abstract: Congenital and childhood cataracts are uncommon but regularly seen in the clinics of most paediatric ophthalmology teams in the UK. They are often associated with profound visual loss and a large proportion have a genetic aetiology, some with significant extra-ocular comorbidities. Optimal diagnosis and treatment typically require close collaboration within multidisciplinary teams. Surgery remains the mainstay of treatment. A variety of surgical techniques, timings of intervention and options for optical correction have been advocated making management seem complex for those seeing affected children infrequently. This paper summarises the proceedings of two recent RCOphth paediatric cataract study days, provides a literature review and describes the current UK 'state of play' in the management of paediatric cataracts.

Database: Medline

38. Adherence to eye examination guidelines among individuals with diabetes: An analysis of linked health data.

Author(s): Gibson, Alice A; Humphries, Jacob; Gillies, Mark; Nassar, Natasha; Colagiuri, Stephen

Source: Clinical & experimental ophthalmology; Dec 2020; vol. 48 (no. 9); p. 1229-1238

Publication Date: Dec 2020

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 32710452

Available at Clinical & experimental ophthalmology - from Wiley Online Library

Abstract:

IMPORTANCE: Screening for diabetic retinopathy for early detection and treatment can prevent vision loss.

BACKGROUND: We aimed to assess rates of eye examination of people with diabetes, adherence with national guidelines and investigate characteristics of those who do not adhere.

DESIGN: We used data from the 45 and Up Study, a cohort study of 267 153 randomly selected residents aged ≥45 years from New South Wales, Australia. Individual survey data collected in 2006 to 2009 were linked to corresponding national Medicare Benefits Schedule claims data for 2006 to 2016.

PARTICIPANTS: The study sample included 24 832 participants who reported having diabetes and at least 5 years of observation.

METHODS: Claims for visits to optometrists or ophthalmologists were assessed to estimate rates of eye examination. Poisson regression models were used to investigate factors associated with non-adherence.

MAIN OUTCOME MEASURE: Participants were classified as adherent if the average time between eye care claims was consistent with national guideline of having an eye exam every 2 years.

RESULTS: Of 50% to 75% people with diabetes met the biennial eye examination guidelines and only 21% to 28% with diabetes duration ≥10 years were adherent to the annual eye examination guideline. Characteristics associated with greatest (~1.3-fold) risk of non-adherence were smoking, age <60 years and higher income.

CONCLUSIONS AND RELEVANCE: There is a clear need to improve rates of adherence to eye examination guidelines among people with diabetes to reduce the personal and societal burden of diabetic retinopathy.

Database: Medline

39. Only eye study 2 (OnES 2): 'Am I going to be able to see when the patch comes off?' A qualitative study of patient experiences of undergoing high-stakes only eye surgery.

Author(s): Jones, Lee; Taylor, Deanna J; Sii, Freda; Masood, Imran; Crabb, David P; Shah, Peter

Source: BMJ open; Nov 2020; vol. 10 (no. 11); p. e038916

Publication Date: Nov 2020

Publication Type(s): Journal Article

PubMedID: 33168554

Available at BMJ open - from BMJ Journals

Available at BMJ open - from Europe PubMed Central - Open Access

Available at BMJ open - from HighWire - Free Full Text

Available at BMJ open - from ProQuest (Health Research Premium) - NHS Version

Available at BMJ open - from Unpaywall

Abstract:

OBJECTIVES: Ocular surgery is a source of significant concern for many patients, especially in high-stakes circumstances. The purpose of this study was to explore patient experiences of undergoing surgery on their only-seeing eye.

DESIGN: A qualitative investigation using semistructured face-to-face interviews. Transcripts were analysed using thematic analysis.

SETTING: Hospital eye service in the UK.

PARTICIPANTS: Twelve participants with a diagnosis of glaucoma with worse eye visual acuity <3/60± end-stage visual field loss. All participants had experience of undergoing surgery on their better-seeing (ie, 'only') eye.

RESULTS: Data were coded into three key themes relating to (1) emotional impact of surgery, (2) burden of visual loss and (3) coping with surgery. Patients reported depressive symptoms at all stages of their surgical journey; concern about poor visual outcomes was a common feature. Only eye surgery imposes an emotional burden due to the uncertainty regarding individuals' ability to continue daily activities and maintaining social roles. Burden extended to the inconvenience of frequent hospital visits and difficulties with follow-up care. Participants' ability to cope effectively with surgery appeared to be linked to extent of support from healthcare professionals. Key areas in developing trust and support were an open and transparent dialogue between surgeons and patients, continuity of care, patient inclusion in decision-making, and observable empathy.

CONCLUSIONS: The findings indicate a need for an enhanced model of care in only eye surgery to better target patient preferences and allay concerns inherent with these procedures.

Database: Medline

40. A Patient-reported Outcome Measure of Functional Vision for Children and Young People Aged 8 to 18 Years With Visual Impairment.

Author(s): Robertson, Alexandra O; Tadić, Valerija; Cortina-Borja, Mario; Rahi, Jugnoo S; Child Vision PROMs group

Source: American journal of ophthalmology; Nov 2020; vol. 219 ; p. 141-153

Publication Date: Nov 2020

Publication Type(s): Research Support, Non-u.s. Gov't Validation Study Journal Article

PubMedID: 32360333

Available at American journal of ophthalmology - from Unpaywall

Abstract:

PURPOSE: To develop age-appropriate extensions of a patient-reported outcome measure for capturing the functional impact of visual impairment on daily activities of children and young people aged 8 up to 18 years.

DESIGN: Questionnaire development and validation study.

METHODS: Pediatric Ophthalmology departments at Great Ormond Street Hospital and Moorfields Eye Hospital, and, in the final study phase, 20 further UK hospitals. Children and young people (aged 6-19 years) with visual impairment (acuity of the logarithm of the minimum angle of resolution (LogMAR) worse than 0.50 in the better eye) due to any cause but without significant non-ophthalmic impairments. We used our prototype FVQ_CYP for 10-15 year olds as the foundation. Twenty-nine semi-structured interviews confirmed relevance of existing, and identified new, age-specific items. Twenty-eight cognitive interviews captured information regarding comprehensibility and format. The FVQ_Child (8-12 years) and FVQ_Young Person (13-18 years) were evaluated with a national sample of 113 children and 96 young people using Rasch analysis.

RESULTS: Issues emerging from interviews with children and young people were largely congruent with those elicited originally with 10-15 year olds. The 28-item FVQ_Child and 38-item FVQ_Young Person versions have goodness-of-fit statistics within the interval 0.5, 1.5 and person separation values of 5.87 and 6.09 respectively. Twenty-four overlapping "core" items enabled their calibration on the same measurement scale. Correlations with acuity (r = 0.47) demonstrated construct validity.

CONCLUSIONS: The FVQ_C and FVQ_Young Person are robust age-appropriate versions of the FVQ_CYP which can be used cross-sectionally or sequentially/longitudinally across the age range of 8 up to 18 years in clinical practice and research.

Database: Medline

41. A virtual-clinic pathway for patients referred from a national diabetes eye screening programme reduces service demands whilst maintaining quality of care.

Author(s): Faes, Livia; Fu, Dun Jack; Huemer, Josef; Kern, Christoph; Wagner, Siegfried K; Fasolo, Sandro; Hamilton, Robin; Egan, Catherine; Balaskas, Konstantinos; Keane, Pearse A; Bachmann, Lucas M; Sim, Dawn A

Source: Eye (London, England); Oct 2020

Publication Date: Oct 2020

Publication Type(s): Journal Article

PubMedID: 33128024

Available at Eye (London, England) - from Unpaywall

Abstract:

AIM: To evaluate the potential of an integrated virtual medical retina clinic in secondary care for diabetic patients screened and referred by the UK National Diabetic Eye Screening Program (DESP).

METHODS: This retrospective cohort study included diabetic patients referred by the DESP to either a virtual or a traditional doctor's appointment (face-to-face, F2F) at the Moorfields Eye Hospital NHS Foundation Trust (London, UK) between January 2015 and December 2018. The primary outcome was the proportion of patients that qualified for a virtual-clinic appointment according to hospital guidance. Secondary outcomes included the rate of attendance, mean time from DESP referral to initial hospital appointment, mean time-to-discharge and -to-treatment of either panretinal photocoagulation or intravitreal injection of anti-vascular endothelial growth factor.

RESULTS: We included 12,563 patients in this study. While 8833 patients (70.7%) would have qualified for a virtual appointment according to local triage guidance, only 2306 (18.4%) were referred to a virtual consultation due to capacity constraints. For routine referrals, mean time to the first hospital appointment was 66.9 days with a standard deviation of ±35.9 and 80.9 ± 44.4 days for a virtual and a F2F consultation, respectively. The mean time from referral to discharge to community was 71.7 ± 30.8 and 86.3 ± 37.0 days for a virtual and a F2F consultation, respectively. We did not observe a statistically significant difference in the mean time-to-treatment in the sub-cohort that required intravitreal therapy for maculopathy (virtual clinics: 220.7 ± 84.8; F2F: 178.0 days ± 80.7; p value > 0.05). Moreover, we observed a non-inferior attendance rate in virtual as compared to F2F clinics.

CONCLUSION: A significant proportion of diabetic patients referred to a F2F clinic could initially be managed in a virtual clinic. Increasing the adoption of virtual clinics in the management of diabetic patients that do not need long-term management or monitoring in secondary services may help alleviate service demands without diminishing quality of clinical care. Collectively, our analyses suggest that virtual consultations are a faster and clinically appropriate alternative for a substantial proportion of diabetic patients.

Database: Medline

42. Two-Year Results of the Phase 3 Randomized Controlled Study of Abicipar in Neovascular Age-Related Macular Degeneration.

Author(s): Khurana, Rahul N; Kunimoto, Derek; Yoon, Young Hee; Wykoff, Charles C; Chang, Andrew; Maturi, Raj K; Agostini, Hansjürgen; Souied, Eric; Chow, David R; Lotery, Andrew J; Ohji, Masahito; Bandello, Francesco; Belfort, Rubens; Li, Xiao-Yan; Jiao, Jenny; Le, Grace; Kim, Kimmie; Schmidt, Werner; Hashad, Yehia; CEDAR and SEQUOIA Study Groups

Source: Ophthalmology; Jul 2021; vol. 128 (no. 7); p. 1027-1038

Publication Date: Jul 2021

Publication Type(s): Journal Article

PubMedID: 33221326

Available at Ophthalmology - from Unpaywall

Abstract:

PURPOSE: To report the 2-year efficacy and safety of abicipar every 8 weeks and quarterly (after initial doses) compared with monthly ranibizumab in patients with treatment-naïve neovascular age-related macular degeneration (nAMD).

DESIGN: Two multicenter, randomized, phase 3 clinical trials with identical protocols (CEDAR and SEQUOIA). Analyses used pooled trial data.

PARTICIPANTS: The trials enrolled 1888 patients (1 eye/patient) with active choroidal neovascularization secondary to age-related macular degeneration and best-corrected visual acuity (BCVA) of 24 to 73 Early Treatment Diabetic Retinopathy Study letters.

METHODS: At enrollment, patients were assigned to study eye treatment with abicipar 2 mg every 8 weeks after initial doses at baseline and weeks 4 and 8 (abicipar Q8, n = 630), abicipar 2 mg every 12 weeks after initial doses at baseline and weeks 4 and 12 (abicipar Q12, n = 628), or ranibizumab 0.5 mg every 4 weeks (ranibizumab Q4, n = 630).

MAIN OUTCOME MEASURES: Efficacy measures included stable vision (<15-letter loss in BCVA from baseline) and change from baseline in BCVA and central retinal thickness (CRT). Safety measures included adverse events (AEs).

RESULTS: For patients who completed the study, efficacy of abicipar after initial doses was maintained through week 104. At week 104, the proportion of patients with stable vision was 93.0% (396/426), 89.8% (379/422), and 94.4% (470/498); mean change in BCVA from baseline was +7.8 letters, +6.1 letters, and +8.5 letters, and mean change in CRT from baseline was -147 µm, -146 µm, and -142 µm in the abicipar Q8 (14 injections), abicipar Q12 (10 injections), and ranibizumab Q4 (25 injections) groups, respectively. The overall incidence of intraocular inflammation (IOI) AEs was 15.4%, 15.3%, and 0.3% from baseline through week 52 and 16.2%, 17.6%, and 1.3% from baseline through week 104 in the abicipar Q8, abicipar Q12, and ranibizumab Q4 groups, respectively.

CONCLUSIONS: Two-year results show efficacy of abicipar Q8 and Q12 in nAMD. First onset of IOI events with abicipar was much reduced in the second year and comparable with ranibizumab (0.8% and 2.3% vs. 1.0%). The extended duration of effect of abicipar allows for quarterly dosing and reduced treatment burden.

Database: Medline

43. Reducing the Global Burden of Myopia by Delaying the Onset of Myopia and Reducing Myopic Progression in Children: The Academy's Task Force on Myopia.

Author(s): Modjtahedi, Bobeck S; Abbott, Richard L; Fong, Donald S; Lum, Flora; Tan, Donald; Task Force on Myopia

Source: Ophthalmology; Jun 2021; vol. 128 (no. 6); p. 816-826

Publication Date: Jun 2021

Publication Type(s): Journal Article

PubMedID: 33388160

Available at Ophthalmology - from Unpaywall

Abstract: In 2019, the American Academy of Ophthalmology (AAO) created the Task Force on Myopia in recognition of the substantial global increases in myopia prevalence and its associated complications. The Task Force, led by Richard L. Abbott, MD, and Donald Tan, MD, comprised recognized experts in myopia prevention and treatment, public health experts from around the world, and organization representatives from the American Academy of Family Physicians, American Academy of Optometry, and American Academy of Pediatrics. The Academy's Board of Trustees believes that myopia is a high-priority cause of visual impairment, warranting a timely evaluation and synthesis of the scientific literature and formulation of an action plan to address the issue from different perspectives. This includes education of physicians and other health care providers, patients and their families,

schools, and local and national public health agencies; defining health policies to ameliorate patients' access to appropriate therapy and to promote effective public health interventions; and fostering promising avenues of research.

Database: Medline

44. Ab-externo MicroShunt versus Trabeculectomy in Primary Open-Angle Glaucoma: 1-year Results from a 2-year Randomized, Multicenter Study.

Author(s): Baker, N Douglas; Barnebey, Howard S; Moster, Marlene R; Stiles, Michael C; Vold, Steven D; Khatana, Anup K; Flowers, Brian E; Grover, Davinder S; Strouthidis, Nicholas G; Panarelli, Joseph F; INN005 study group

Source: Ophthalmology; May 2021

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 34051211

Available at Ophthalmology - from Unpaywall

Abstract:

OBJECTIVE: To compare the effectiveness and safety of the MicroShunt versus trabeculectomy in patients with primary open-angle glaucoma (POAG).

DESIGN: One-year results from a 2-year, prospective, randomized, multicenter, non-inferiority study (NCT01881425) conducted in the USA and Europe.

PARTICIPANT: SEligible patients were aged 40-85 years with intraocular pressure (IOP) ≥15 and ≤40 mmHg and mild-to-severe POAG inadequately controlled on maximum tolerated medical therapy.

INTERVENTION: Patients were randomized 3:1 to undergo stand-alone MicroShunt implantation or trabeculectomy, both performed with adjunctive Mitomycin C (0.2 mg/mL for 2 minutes).

MAIN OUTCOME MEASURES: The primary effectiveness endpoint was surgical success, defined as ≥20% reduction in mean diurnal IOP from baseline (no medication washout) at year 1 without increasing the number of glaucoma medications. Secondary effectiveness endpoints at year 1 were the mean IOP change from baseline and requirement for postoperative intervention. Additional endpoints included glaucoma medication use and adverse events.

RESULTS: Overall, 395 (MicroShunt) and 132 (trabeculectomy) patients were randomized (mean Humphrey visual field mean deviation -12.34 dB). At year 1, probability of success was lower in the MicroShunt group compared with the trabeculectomy group (53.9% versus 72.7%, respectively; P<0.01). In the MicroShunt group, mean IOP ± standard deviation decreased from 21.1±4.9 mmHg at baseline to 14.3±4.3 mmHg (-29.1%; P<0.01) at year 1, with a mean of 0.6±1.1 glaucoma medications (baseline 3.1±1.0; P<0.01). In the trabeculectomy group, mean IOP decreased from 21.1±5.0 mmHg to 11.1±4.3 mmHg (-45.4%; P<0.01), with a mean of 0.3±0.9 glaucoma medications (baseline 3.0±0.9; P<0.01). Postoperative interventions, including laser suture lysis, were reported in 40.8% (MicroShunt) versus 67.4% (trabeculectomy) of patients (P<0.01). Reported incidence of transient hypotony was higher in the trabeculectomy group versus the MicroShunt group (49.6% versus 28.9%; P<0.01). Vision-threatening complications were uncommon and reported in 1.0% of MicroShunt versus 0.8% of trabeculectomy patients.

CONCLUSIONS: Probability of success was lower with MicroShunt compared with trabeculectomy. Though reductions in IOP and glaucoma medications over 1 year were observed in both groups, the trabeculectomy group had a lower mean IOP on fewer medications.

Database: Medline

45. The Risks and Benefits of Myopia Control.

Author(s): Bullimore, Mark A; Ritchey, Eric R; Shah, Sunil; Leveziel, Nicolas; Bourne, Rupert R A; Flitcroft, D Ian

Source: Ophthalmology; May 2021

Publication Date: May 2021

Publication Type(s): Journal Article

PubMedID: 33961969

Available at Ophthalmology - from Unpaywall

Abstract:

PURPOSE: The prevalence of myopia is increasing around the world, stimulating interest in methods to slow its progression. The primary justification for slowing myopia progression is to reduce the risk of vision loss through sight-threatening ocular pathologic features in later life. The article analyzes whether the potential benefits of slowing myopia progression by 1 diopter (D) justify the potential risks associated with treatments.

METHODS: First, the known risks associated with various methods of myopia control are summarized, with emphasis on contact lens wear. Based on available data, the risk of visual impairment and predicted years of visual impairment are estimated for a range of incidence levels. Next, the increased risk of potentially sight-threatening conditions associated with different levels of myopia are reviewed. Finally, a model of the risk of visual impairment as a function of myopia level is developed, and the years of visual impairment associated with various levels of myopia and the years of visual impairment that could be prevented with achievable levels of myopia control are estimated.

RESULTS: Assuming an incidence of microbial keratitis between 1 and 25 per 10 000 patient-years and that 15% of cases result in vision loss leads to the conclusion that between 38 and 945 patients need to be exposed to 5 years of wear to produce 5 years of vision loss. Each additional 1 D of myopia is associated with a 58%, 20%, 21%, and 30% increase in the risk of myopic maculopathy, open-angle glaucoma, posterior subcapsular cataract, and retinal detachment, respectively. The predicted mean years of visual impairment ranges from 4.42 in a person with myopia of -3 D to 9.56 in a person with myopia of -8 D, and a 1-D reduction would lower these by 0.74 and 1.21 years, respectively.

CONCLUSIONS: The potential benefits of myopia control outweigh the risks: the number needed to treat to prevent 5 years of visual impairment is between 4.1 and 6.8, whereas fewer than 1 in 38 will experience a loss of vision as a result of myopia control.

Database: Medline

46. The Global Extent of Undetected Glaucoma in Adults: A Systematic Review and Meta-analysis.

Author(s): Da Soh, Zhi; Yu, Marco; Betzler, Bjorn Kaijun; Majithia, Shivani; Thakur, Sahil; Tham, Yih Chung; Wong, Tien Yin; Aung, Tin; Friedman, David S; Cheng, Ching-Yu

Source: Ophthalmology; Apr 2021

Publication Date: Apr 2021

Publication Type(s): Journal Article Review

PubMedID: 33865875

Abstract:

TOPIC: Glaucoma is the leading cause of irreversible blindness, despite having good prognosis with early treatment. We evaluated the global extent of undetected glaucoma and the factors associated with it in this systematic review and meta-analysis.

CLINICAL RELEVANCE: Undetected glaucoma increases the risk of vision impairment, which leads to detrimental effects on the quality-of-life and socioeconomic well-being of those affected. Detailed information on the extent and factors associated with undetected glaucoma aid in the development of public health interventions.

METHODS: We conducted a systematic review and meta-analysis of population-based studies published between January 1, 1990, and June 1, 2020. Article search was conducted in online databases (PubMED, Web-of-Science), grey literatures (OpenGrey), and nongovernment organization reports. Our outcome measure was the proportion of glaucoma cases that were undetected previously. Manifest glaucoma included any form of glaucoma reported in the original studies and may include primary open-angle glaucoma (POAG), primary angle-closure-glaucoma, secondary

glaucoma, or a combination thereof. Undetected glaucoma was defined as glaucoma cases that were undetected prior to diagnosis in the respective study. Random-effect meta-analysis was used to estimate the pooled proportion of undetected glaucoma. We followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses and the Meta-analysis of Observational Studies in Epidemiology guidelines in our study.

RESULTS: We identified 61 articles from 55 population-based studies (n = 189 359 participants; n = 6949 manifest glaucoma). Globally, more than half of all glaucoma cases were undetected previously on average in each geographical region. Africa (odds ratio [OR], 12.70; 95% confidence interval [CI], 4.91-32.86) and Asia (OR, 3.41; 95% CI, 1.63-7.16) showed higher odds of undetected glaucoma as compared with Europe. Countries with low Human Development Index (HDI; <0.55) showed a higher proportion of undetected manifest glaucoma as compared with countries of medium to very high HDI (≥0.55; all P < 0.001). In 2020, 43.78 million POAG cases were projected to be undetected, of which 76.7% were in Africa and Asia.

DISCUSSION: Undetected glaucoma is highly prevalent across diverse communities worldwide and more common in Africa and Asia. Strategies to improve detection are needed to prevent excess visual disability and blindness resulting from glaucoma.

Database: Medline

47. Glaucoma in Adults-Screening, Diagnosis, and Management: A Review.

Author(s): Stein, Joshua D; Khawaja, Anthony P; Weizer, Jennifer S

Source: JAMA; Jan 2021; vol. 325 (no. 2); p. 164-174

Publication Date: Jan 2021

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review

PubMedID: 33433580

Available at JAMA - from EBSCO (MEDLINE Complete)

Abstract:

Importance: Glaucoma is the most common cause of irreversible blindness worldwide. Many patients with glaucoma are asymptomatic early in the disease course. Primary care clinicians should know which patients to refer to an eye care professional for a complete eye examination to check for signs of glaucoma and to determine what systemic conditions or medications can increase a patient's risk of glaucoma. Open-angle and narrow-angle forms of glaucoma are reviewed, including a description of the pathophysiology, risk factors, screening, disease monitoring, and treatment options.

Observations: Glaucoma is a chronic progressive optic neuropathy, characterized by damage to the optic nerve and retinal nerve fiber layer, that can lead to permanent loss of peripheral or central vision. Intraocular pressure is the only known modifiable risk factor. Other important risk factors include older age, nonwhite race, and a family history of glaucoma. Several systemic medical conditions and medications including corticosteroids, anticholinergics, certain antidepressants, and topiramate may predispose patients to glaucoma. There are 2 broad categories of glaucoma, open-angle and angle-closure glaucoma. Diagnostic testing to assess for glaucoma and to monitor for disease progression includes measurement of intraocular pressure, perimetry, and optical coherence tomography. Treatment of glaucoma involves lowering intraocular pressure. This can be achieved with various classes of glaucoma medications as well as laser and incisional surgical procedures.

Conclusions and Relevance: Vision loss from glaucoma can be minimized by recognizing systemic conditions and medications that increase a patient's risk of glaucoma and referring high-risk patients for a complete ophthalmologic examination. Clinicians should ensure that patients remain adherent with taking glaucoma medications and should monitor for adverse events from medical or surgical interventions used to treat glaucoma.

Database: Medline

48. The Association between Vision Impairment and Incidence of Dementia and Cognitive Impairment: A Systematic Review and Meta-analysis.

Author(s): Shang, Xianwen; Zhu, Zhuoting; Wang, Wei; Ha, Jason; He, Mingguang

Source: Ophthalmology; Jan 2021

Publication Date: Jan 2021

Publication Type(s): Journal Article Review

PubMedID: 33422559

Abstract:

TOPIC: The magnitude and direction of the association between vision impairment and incident dementia and cognitive impairment in prospective cohort studies was estimated by systematic review and meta-analysis. The global burden of dementia associated with vision impairment then was estimated.

CLINICAL RELEVANCE: Because a predominant proportion of vision impairment is preventable or treatable, investigating its association with dementia may help to identify an important modifiable factor for the prevention of dementia.

METHODS: A literature search was conducted using PubMed, Embase, Web of Science, and Google Scholar on September 15, 2020. Relative risks (RRs) were pooled using random-effects models and stratified analyses for subgroups representing different study characteristics. Publication bias was evaluated with funnel plots and the Egger test. The global burden of dementia associated with vision impairment was estimated based on the Global Burden of Disease Study data on the prevalence of dementia and vision impairment.

RESULTS: In the meta-analysis of 14 prospective cohort studies with 6 204 827 participants and 171 888 dementia patients, the pooled RR associated with vision impairment was 1.47 (95% confidence interval [CI], 1.36-1.60). In the meta-analysis of 12 prospective cohort studies with 45 313 participants and 13 350 patients with cognitive impairment, the pooled RR was 1.35 (95% CI, 1.28-1.41). Stratified analyses showed that the associations of vision impairment with incident dementia and cognitive impairment were similar across methods of vision assessment, length of follow-up, and study quality. The global number of people with dementia associated with moderate or severe vision impairment in 2016 was 2.1 million (80% uncertainty interval, 1.0-3.3 million), which accounted for 4.7% (95% CI, 2.3%-7.5%) of the global burden of dementia. Economic inequality was significant for the burden of dementia associated with vision impairment.

DISCUSSION: The overall quality of the body evidence was low because of the observational design of the studies included in the analysis. Vision impairment is associated with an increased risk of both dementia and cognitive impairment in older adults. Screening and treating vision impairment, especially in low- and middle-income countries, may help to alleviate the global burden of dementia.

Database: Medline

49. Trends in Glaucoma Surgeries Performed by Glaucoma Subspecialists versus Nonsubspecialists on Medicare Beneficiaries from 2008 through 2016.

Author(s): Rathi, Siddarth; Andrews, Chris A; Greenfield, David S; Stein, Joshua D

Source: Ophthalmology; Jan 2021; vol. 128 (no. 1); p. 30-38

Publication Date: Jan 2021

Publication Type(s): Research Support, Non-u.s. Gov't Comparative Study Multicenter Study Journal Article Observational Study

PubMedID: 32598949

Abstract:

PURPOSE: To characterize the use of laser and incisional glaucoma surgeries among Medicare beneficiaries from 2008 through 2016 and to compare the use of these surgeries by glaucoma subspecialists versus nonsubspecialists.

DESIGN: Retrospective, observational analysis.

PARTICIPANTS: Medicare beneficiaries (n = 1 468 035) undergoing ≥1 laser or incisional glaucoma surgery procedure during 2008 through 2016.

METHODS: Claims data from a 20% sample of enrollees in fee-for-service Medicare throughout the United States were analyzed to identify all laser and incisional glaucoma surgeries performed from 2008 through 2016. We assessed use of traditional incisional glaucoma surgery techniques (trabeculectomy and glaucoma drainage implant [GDI] procedure) and microinvasive glaucoma surgery (MIGS). Enrollee and procedure counts were multiplied by 5 to estimate use throughout all of Medicare. Linear regression was used to compare trends in use of glaucoma surgeries between ophthalmologists who could be characterized as glaucoma subspecialists versus nonsubspecialists.

MAIN OUTCOME MEASURES: Numbers of laser and incisional glaucoma surgeries performed overall and stratified by glaucoma subspecialist status.

RESULTS: The number of Medicare beneficiaries undergoing any glaucoma therapeutic procedure increased by 10.6%, from 218 375 in 2008 to 241 565 in 2016. The total number of traditional incisional glaucoma surgeries decreased by 11.7%, from 37 225 to 32 885 (P = 0.02). The total number of MIGS procedures increased by 426% from 13 705 in 2012 (the first year MIGS codes were available) to 58 345 in 2016 (P = 0.001). Throughout the study period, glaucoma subspecialists performed most of the trabeculectomies (76.7% in 2008, 83.1% in 2016) and GDI procedures (77.7% in 2008, 80.6% in 2016). Many MIGS procedures were performed by nonsubspecialists. The proportions of endocyclophotocoagulations, iStent (Glaukos; San Clemente, CA) insertions, goniotomies, and canaloplasties performed by glaucoma subspecialists in 2016 were 22.0%, 25.2%, 56.9%, and 62.8%, respectively.

CONCLUSIONS: From 2008 through 2016, a large shift in practice from traditional incisional glaucoma surgeries to MIGS procedures was observed. Although glaucoma subspecialists continue to perform most traditional incisional glaucoma surgeries, many MIGS procedures are performed by nonsubspecialists. These results highlight the importance of training residents in performing MIGS procedures and managing these patients perioperatively. Future studies should explore the impact of this shift in care on outcomes and costs.

Database: Medline

50. Effect of Intravitreous Aflibercept vs Vitrectomy With Panretinal Photocoagulation on Visual Acuity in Patients With Vitreous Hemorrhage From Proliferative Diabetic Retinopathy: A Randomized Clinical Trial.

Author(s): Antoszyk, Andrew N; Glassman, Adam R; Beaulieu, Wesley T; Jampol, Lee M; Jhaveri, Chirag D; Punjabi, Omar S; Salehi-Had, Hani; Wells, John A; Maguire, Maureen G; Stockdale, Cynthia R; Martin, Daniel F; Sun, Jennifer K; DRCR Retina Network

Source: JAMA; Dec 2020; vol. 324 (no. 23); p. 2383-2395

Publication Date: Dec 2020

Publication Type(s): Research Support, N.i.h., Extramural Comparative Study Randomized Controlled Trial Multicenter Study Journal Article

PubMedID: 33320223

Available at JAMA - from EBSCO (MEDLINE Complete)

Available at JAMA - from Unpaywall

Abstract:

Importance: Vitreous hemorrhage from proliferative diabetic retinopathy can cause loss of vision. The best management approach is unknown.

Objective: To compare initial treatment with intravitreous aflibercept vs vitrectomy with panretinal photocoagulation for vitreous hemorrhage from proliferative diabetic retinopathy.

Design, Setting, and Participants: Randomized clinical trial at 39 DRCR Retina Network sites in the US and Canada including 205 adults with vison loss due to vitreous hemorrhage from proliferative diabetic retinopathy who were enrolled from November 2016 to December 2017. The final follow-up visit was completed in January 2020.

Interventions: Random assignment of eyes (1 per participant) to aflibercept (100 participants) or vitrectomy with panretinal photocoagulation (105 participants). Participants whose eyes were assigned to aflibercept initially

received 4 monthly injections. Both groups could receive aflibercept or vitrectomy during follow-up based on protocol criteria.

Main Outcomes and Measures: The primary outcome was mean visual acuity letter score (range, 0-100; higher scores indicate better vision) over 24 weeks (area under the curve); the study was powered to detect a difference of 8 letters. Secondary outcomes included mean visual acuity at 4 weeks and 2 years.

Results: Among 205 participants (205 eyes) who were randomized (mean [SD] age, 57 [11] years; 115 [56%] men; mean visual acuity letter score, 34.5 [Snellen equivalent, 20/200]), 95% (195 of 205) completed the 24-week visit and 90% (177 of 196, excluding 9 deaths) completed the 2-year visit. The mean visual acuity letter score over 24 weeks was 59.3 (Snellen equivalent, 20/63) (95% CI, 54.9 to 63.7) in the aflibercept group vs 63.0 (Snellen equivalent, 20/63) (95% CI, 58.6 to 67.3) in the vitrectomy group (adjusted difference, -5.0 [95% CI, -10.2 to 0.3], P = .06). Among 23 secondary outcomes, 15 showed no significant difference. The mean visual acuity letter score was 52.6 (Snellen equivalent, 20/100) in the aflibercept group vs 62.3 (Snellen equivalent, 20/63) in the vitrectomy group at 4 weeks (adjusted difference, -11.2 [95% CI, -18.5 to -3.9], P = .003) and 73.7 (Snellen equivalent, 20/40) vs 71.0 (Snellen equivalent, 20/40) at 2 years (adjusted difference, 2.7 [95% CI, -3.1 to 8.4], P = .36). Over 2 years, 33 eyes (33%) assigned to aflibercept received vitrectomy and 34 eyes (32%) assigned to vitrectomy received subsequent aflibercept.

Conclusions and Relevance: Among participants whose eyes had vitreous hemorrhage from proliferative diabetic retinopathy, there was no statistically significant difference in the primary outcome of mean visual acuity letter score over 24 weeks following initial treatment with intravitreous aflibercept vs vitrectomy with panretinal photocoagulation. However, the study may have been underpowered, considering the range of the 95% CI, to detect a clinically important benefit in favor of initial vitrectomy with panretinal photocoagulation.Trial RegistrationClinicalTrials.gov Identifier: NCT02858076.

Database: Medline

51. Retinal vascular occlusions.

Author(s): Scott, Ingrid U; Campochiaro, Peter A; Newman, Nancy J; Biousse, Valérie

Source: Lancet (London, England); Dec 2020; vol. 396 (no. 10266); p. 1927-1940

Publication Date: Dec 2020

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review

PubMedID: 33308475

Available at Lancet (London, England) - from ProQuest (MEDLINE with Full Text) - NHS Version

Available at Lancet (London, England) - from ProQuest (Health Research Premium) - NHS Version

Available at Lancet (London, England) - from Unpaywall

Abstract: Acute retinal vascular occlusions are common causes of visual impairment. Although both retinal artery occlusions and retinal vein occlusions are associated with increased age and cardiovascular risk factors, their pathophysiology, systemic implications, and management differ substantially. Acute management of retinal artery occlusions involves a multidisciplinary approach including neurologists with stroke expertise, whereas treatment of retinal vein occlusions is provided by ophthalmologists. Optimisation of systemic risk factors by patients' primary care providers is an important component of the management of these two disorders.

Database: Medline

52. Risk Factors for Visual Field Deterioration in the United Kingdom Glaucoma Treatment Study.

Author(s): Founti, Panayiota; Bunce, Catey; Khawaja, Anthony P; Doré, Caroline J; Mohamed-Noriega, Jibran; Garway-Heath, David F; United Kingdom Glaucoma Treatment Study Group

Source: Ophthalmology; Dec 2020; vol. 127 (no. 12); p. 1642-1651

Publication Date: Dec 2020

Publication Type(s): Randomized Controlled Trial Multicenter Study Journal Article

PubMedID: 32540325

Available at Ophthalmology - from Unpaywall

Abstract:

PURPOSE: The United Kingdom Glaucoma Treatment Study (UKGTS) investigated the visual field (VF)-preserving effect of medical treatment in open-angle glaucoma (OAG). The objective of this analysis was to identify risk factors associated with VF deterioration.

DESIGN: Randomized, double-masked, placebo-controlled multicenter trial.

PARTICIPANTS: Five hundred sixteen participants with previously untreated OAG were recruited prospectively in 10 United Kingdom centers.

METHODS: Eligibility criteria were modeled on those for the Early Manifest Glaucoma Trial. Study participants were randomized to either latanoprost 0.005% or placebo eye drops. The observation period was 2 years and involved, among other procedures, VF testing and intraocular pressure (IOP) measurement at 11 scheduled visits, with clustering of tests at baseline, 18 months, and 24 months. Guided progression analysis pattern deviation maps were used to determine VF deterioration. Cox regression was used to compute the hazard ratios (HRs) and respective 95% confidence intervals (CIs) while accounting for the correlation within sites. Model selection was guided by backward stepwise selection conducted on the model containing all variables that were significant at the 0.2 level in the univariate analysis. Follow-up variables that showed collinearity with baseline values were not retained in the final model.

MAIN OUTCOME MEASURE: Time to VF deterioration.

RESULTS: Treatment with latanoprost reduced the HR, for VF deterioration by 58% (HR, 0.42; 95% CI, 0.27-0.67; P = 0.001). Factors associated with deterioration were bilateral disease (HR, 1.59 for yes vs. no; 95% CI, 1.02-2.50; P = 0.041), higher baseline IOP (HR, 1.07 per mmHg; 95% CI, 1.02-1.12; P = 0.008), and disc hemorrhage at visit 1 (HR, 2.08; 95% CI, 1.07-4.04; P = 0.030). Smoking (current or previous) was associated with a reduced HR, for VF deterioration (HR, 0.59; 95% CI, 0.37-0.93; P = 0.023). No other evaluated factors were found to be statistically significant in the multivariable analysis.

CONCLUSIONS: In the UKGTS, treatment with latanoprost halved VF deterioration risk. Bilateral disease, higher IOP, and disc hemorrhage were confirmed as risk factors for deterioration; smoking history seemed to be protective against VF deterioration.

Database: Medline

53. Phase 3, Randomized, 20-Month Study of Bimatoprost Implant in Open-Angle Glaucoma and Ocular Hypertension (ARTEMIS 1).

Author(s): Medeiros, Felipe A; Walters, Thomas R; Kolko, Miriam; Coote, Michael; Bejanian, Marina; Goodkin, Margot L; Guo, Qiang; Zhang, Jane; Robinson, Michael R; Weinreb, Robert N; ARTEMIS 1 Study Group

Source: Ophthalmology; Dec 2020; vol. 127 (no. 12); p. 1627-1641

Publication Date: Dec 2020

Publication Type(s): Research Support, Non-u.s. Gov't Randomized Controlled Trial Multicenter Study Journal Article Clinical Trial, Phase Iii

PubMedID: 32544560

Available at Ophthalmology - from Unpaywall

Abstract:

PURPOSE: To evaluate the intraocular pressure (IOP)-lowering efficacy and safety of 10- and 15-μg bimatoprost implant in subjects with open-angle glaucoma (OAG) and ocular hypertension (OHT) after initial and repeated administrations.

DESIGN: Randomized, 20-month, multicenter, subject- and efficacy evaluator-masked, parallel-group, phase 3 clinical study.

PARTICIPANTS: Adults with OAG or OHT in each eye, open iridocorneal angle inferiorly in the study eye, and study eye baseline IOP (hour 0; 8 am) of 22-32 mmHg after washout.

METHODS: Study eyes received bimatoprost implant 10 µg (n = 198) or 15 µg (n = 198) on day 1 with readministration at weeks 16 and 32, or twice-daily topical timolol maleate 0.5% (n = 198). Intraocular pressure was measured at hours 0 and 2 at each visit.

MAIN OUTCOME MEASURES: Primary end points were IOP and change from baseline IOP through week 12. Safety measures included treatment-emergent adverse events (TEAEs) and corneal endothelial cell density (CECD).

RESULTS: Both dose strengths of bimatoprost implant were noninferior to timolol in IOP lowering after each administration. Mean diurnal IOP was 24.0, 24.2, and 23.9 mmHg at baseline and from 16.5-17.2, 16.5-17.0, and 17.1-17.5 mmHg through week 12 in the 10-µg implant, 15-µg implant, and timolol groups, respectively. The incidence of corneal and inflammatory TEAEs of interest (e.g., corneal endothelial cell loss, iritis) was higher with bimatoprost implant than timolol and highest with the 15-µg dose strength. Incidence of corneal TEAEs increased after repeated treatment; with 3 administrations at fixed 16-week intervals, incidence of ≥20% CECD loss was 10.2% (10-µg implant) and 21.8% (15-µg implant). Mean best-corrected visual acuity (BCVA) was stable; 3 implant-treated subjects with corneal TEAEs had >2-line BCVA loss at their last visit.

CONCLUSIONS: Both dose strengths of bimatoprost implant met the primary end point of noninferiority to timolol through week 12. One year after 3 administrations, IOP was controlled in most subjects without additional treatment. The risk-benefit assessment favored the 10-µg implant over the 15-µg implant. Ongoing studies are evaluating other administration regimens to reduce the potential for CECD loss. The bimatoprost implant has potential to improve adherence and reduce treatment burden in glaucoma.

Database: Medline

54. A Real-World Single-Centre Study of Patients with Diabetic Macular Oedema Who Wore a Home-Use Sleep Mask (Noctura 400) for One Year.

Author(s): Meyer-Bothling ; Meyer-Bothling, Oliver; Pinney, Marika

Source: Journal of Ophthalmology; Jun 2021 ; p. 1-13

Publication Date: Jun 2021

Publication Type(s): Academic Journal

Available at Journal of Ophthalmology - from Europe PubMed Central - Open Access

Available at Journal of Ophthalmology - from Hindawi Open Access Journals

Available at Journal of Ophthalmology - from Unpaywall

Abstract: A "Real-World" single-centre observational study was carried out to analyse the effects of enhanced patient interaction with the use of the Noctura 400 sleep mask on a group of 26 diabetics displaying diabetic retinopathy (DR) and diabetic macular oedema (DMO), of which 24 completed the study. We hoped to find if patient compliance could be maintained and to determine the anatomical and functional consequences of consistent mask wear. While this study was ongoing, COVID-19 impacted on normal eye clinic practice, allowing an unexpected analysis of the effects of this disruption to the clinical system on mask wear and disease progress. Throughout the whole study, outcomes were positive, with a high level of consistent patient use of the mask, above 74% up to and beyond 1 year. Even during the COVID-19 1st lockdown in England, the patients maintained a 65% nightly light mask compliance. Statistically significant improvements in maculopathy, including cyst reduction (56.4% of eyes with cysts exhibited cyst shrinkage), and visual acuity (VA) improvement (42/48 eyes gained 5 letters or more) were observed and maintained to the end of the study. Anatomical improvement or stability was recorded in all but one study eye. This investigation shows that given that there is appropriate interaction with patients who are self-treating in home environment, a high level of patient compliance can be maintained, even while there are disruptions to the normal hospital clinic setup.

Database: CINAHL

55. Treatment of Open-Angle Glaucoma and Ocular Hypertension with Preservative-Free Tafluprost/Timolol Fixed-Dose Combination Therapy: UK and Ireland Results from the VISIONARY Study.

Author(s): Ansari ; Pavicic-Astalos, Jasna; Ayan, Filis; King, Anthony J.; Kinsella, Matthew; Ng, Eugene; Nita, Anca

Source: Advances in Therapy; Jun 2021; vol. 38 (no. 6); p. 2990-3002

Publication Date: Jun 2021

Publication Type(s): Academic Journal

PubMedID: NLM33886093

Available at Advances in therapy - from Unpaywall

Abstract:

Introduction: Reducing intraocular pressure (IOP), the only modifiable risk factor for open-angle glaucoma (OAG), is important for the preservation of vision and slowing of disease progression. Preservative-free tafluprost (0.0015%)/timolol (0.5%) fixed combination (PF Taf-T FC) is an approved combination therapy for OAG treatment. The VISIONARY study aimed to evaluate the effectiveness and tolerability of PF Taf-T FC in real-world clinical settings. Here, we present the results from the United Kingdom (UK) and Ireland.

Methods: This observational, multicentre, European, prospective study recorded data during routine clinic appointments on the use of PF Taf-T FC for the treatment of OAG and ocular hypertension (OHT) in patients whose disease was insufficiently controlled on a prostaglandin analogue (PGA) or beta blocker monotherapy or who did not tolerate these medications. Mean change in IOP, symptom severity, changes in clinical signs, and tolerability were investigated over 6 months.

Results: Eighty-two patients were recruited in the UK and Ireland. After 6 months of PF Taf-T FC treatment, mean IOP was significantly reduced from 22.0 to 16.2 mmHg in the UK group and from 18.6 to 14.1 mmHg in the Ireland group. In the UK (65 patients), 49 adverse events (AEs) were reported, of which 3 were serious. No AEs were reported in the Ireland group (17 patients). Overall, 91.9% of UK physicians reported PF Taf-T FC treatment to be the same or better than prior medication for improving clinical signs; 90.0% of UK patients reported PF Taf-T FC treatment to have good or very good tolerability.

Conclusions: Treatment with PF Taf-T FC resulted in significant reductions in mean IOP over 6 months. Patients and physicians reported that treatment was well tolerated. These data demonstrate real-world efficacy of PF Taf-T FC for the treatment of OAG and OHT in routine clinical practice in the UK and Ireland.Trial Registration: European Union electronic Register of Post-Authorisation Studies (EU PAS) register number, EUPAS22204.

Database: CINAHL

Strategy

"(((exp GLAUCOMA/ OR (Glaucoma).ti,ab OR exp "LENS DISEASES"/ OR (cataract*).ti,ab OR ((diabetic OR diabetes) AND eye*).ti,ab OR (Strabismus).ti,ab OR exp "EYELID DISEASES"/ OR (ectropion OR entropion OR ptosis OR bletharoptosis).ti,ab OR exp ASTHENOPIA/ OR (asthenopia).ti,ab OR exp "VISION DISORDERS"/ OR (eye ADJ2 strain*).ti,ab OR ((vision OR visual) ADJ2 (disorder* OR disease OR impair*)).ti,ab) AND (exp THERAPEUTICS/ OR (treat* OR therap* OR manage OR management).ti,ab)) AND (nhs OR uk OR england OR scotland OR wales OR ireland OR britain OR GB).ti,ab) [DT 2020-2021]"