Ophthalmology Update 9

15 October 2020

Welcome to the latest copy of the Ophthalmology Update. The aim of this publication is to bring together a range of recently-published research and guidance that will help you make evidence based decisions.

Accessing Articles

The following abstracts are taken from a selection of recently published articles.
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NICE Guidance Updates:

See all NICE guidance on **Eye conditions** here: https://www.nice.org.uk/guidance/conditions-and-diseases/eye-conditions

Updated in the last 6 months or due to be updated before the next update:

Artificial iris insertion for acquired aniridia
Interventional procedures guidance [IPG674]
Published date: 22 July 2020
https://www.nice.org.uk/guidance/ipg674

Artificial iris insertion for congenital aniridia
Interventional procedures guidance [IPG675]
Published date: 22 July 2020
https://www.nice.org.uk/guidance/ipg675

Repetitive short- pulse transscleral cyclophotocoagulation for glaucoma
In development [GID-IPG10148]
Expected publication date: 03 March 2021
https://www.nice.org.uk/guidance/indevelopment/gid-ipg10148

Eculizumab for treating relapsing neuromyelitis optica [ID1271] - SUSPENDED
In development [GID-TA10469]
Expected publication date: 02 September 2020
https://www.nice.org.uk/guidance/indevelopment/gid-ta10469

Research from the Databases:

Databases searched Medline and CINHAL. All papers from Jan-Oct 2020

See full search strategy

1. Environmental and behavioural interventions for reducing physical activity limitation and preventing falls in older people with visual impairment.

2. Recent trends in vision impairment certifications in England and Wales.

3. The ORNATE India Project: United Kingdom-India Research Collaboration to tackle visual impairment due to diabetic retinopathy.

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

5. Management of nystagmus in children: a review of the literature and current practice in UK specialist services.

6. Evaluating the impact of information and support for people with nystagmus in the digital age: A patient and carer questionnaire study.

7. Impact of an intervention to support hearing and vision in dementia: The SENSE-Cog Field Trial.

8. The cost burden of falls in people with glaucoma in National Health Service Hospital Trusts in the UK.

9. Spectacle correction versus no spectacles for prevention of strabismus in hyperopic children.

10. Seeking a practical definition of stable glaucoma: a Delphi consensus survey of UK glaucoma consultants.

11. 10-year trends in English primary care glaucoma prescribing.

12. Care pathways for glaucoma detection and monitoring in the UK.

13. Diabetic retinopathy and diabetic macular oedema pathways and management: UK Consensus Working Group.

14. Prevalence of treatment with glaucoma medication in Scotland, 2010-2017.

15. Progression from ocular hypertension to visual field loss in the English hospital eye service.

16. Cost-effectiveness of biennial screening for diabetes related retinopathy in people with type 1 and type 2 diabetes compared to annual screening.

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

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

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

20. Real-World Outcomes of Selective Laser Trabeculoplasty in the United Kingdom.

21. Gamma Knife Radiosurgery for Uveal Melanoma: A Retrospective Review of Clinical Complications in a Tertiary Referral Center.

22. Personalising screening of sight-threatening diabetic retinopathy - qualitative evidence to inform effective implementation.

23. Predictors of selective laser trabeculoplasty success in open angle glaucoma or ocular hypertension: does baseline tonography have a predictive role?

24. Comparing Medium-Term Clinical Outcomes following XEN® 45 and XEN® 63 Device Implantation.

25. Molecular diagnostic challenges for non-retinal developmental eye disorders in the United Kingdom.

26. A survey exploring ophthalmologists' attitudes and beliefs in performing Immediately Sequential Bilateral Cataract Surgery in the United Kingdom.

27. Combination Therapy for Macular Oedema in Retinal Vein Occlusions: 3-Year Results from a Real-World Clinical Practice.

28. 5 year incidence of YAG capsulotomy and PCO after cataract surgery with single-piece monofocal intraocular lenses: a real-world evidence study of 20,763 eyes.

29. Alterations in retinal arteriolar microvascular structure associate with higher treatment burden in patients with diabetic macular oedema: results from a 12-month prospective clinical trial.

30. Evaluation of 0.2 µg/day fluocinolone acetonide (ILUVIEN) implant in a cohort of previously treated patients with diabetic macular oedema (DMO): a 36-month follow-up clinical case series.

31. A randomised, prospective study of 'off-the-shelf' use of toric intraocular lenses for cataract patients with pre-existing corneal astigmatism in the NHS.

32. Tea tree oil for Demodex blepharitis.

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

34. Evaluation of Month-24 Efficacy and Safety of Epimacular Brachytherapy for Previously Treated Neovascular Age-Related Macular Degeneration: The MERLOT Randomized Clinical Trial.

35. 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.

36. Abiotrophia defectiva endophthalmitis following routine cataract surgery: the first reported case in the United Kingdom.

37. The relative influence of intellectual disabilities and autism on sensory impairments and physical disability: A whole-country cohort of 5.3 million children and adults.

38. Minimally invasive glaucoma shunt delivers for patients.

39. Comparison of the eating behaviour and dietary consumption in older adults with and without visual impairment.

40. Association Between Polygenic Risk Score and Risk of Myopia.

41. Incidence and Management of Glaucoma or Glaucoma Suspect in the First Year After Pediatric Lensectomy.

42. Assessing strabismus in children.

Full strategy

Results Saved Results
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1. Environmental and behavioural interventions for reducing physical activity limitation and preventing falls in older people with visual impairment.

Author(s): E, Jian-Yu; Li, Tianjing; McInally, Lianne; Thomson, Katie; Shahani, Uma; Gray, Lyle; Howe, Tracey E; Skelton, Dawn A

Source: The Cochrane database of systematic reviews; Sep 2020; vol. 9 ; p. CD009233

Publication Date: Sep 2020

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

PubMedID: 32885841

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

Abstract:

BACKGROUND: Impairment of vision is associated with a decrease in activities of daily living. Avoidance of physical activity in older adults with visual impairment can lead to functional decline and is an important risk factor for falls. The rate of falls and fractures is higher in older people with visual impairment than in age-matched visually normal older people. Possible interventions to reduce activity restriction and prevent falls include environmental and behavioral interventions.

OBJECTIVES: We aimed to assess the effectiveness and safety of environmental and behavioral interventions in reducing physical activity limitation, preventing falls and improving quality of life amongst visually impaired older people.

SEARCH METHODS: We searched CENTRAL (including the Cochrane Eyes and Vision Trials Register) (Issue 2, 2020), Ovid MEDLINE, Embase and eight other databases to 4 February 2020, with no language restrictions.

SELECTION CRITERIA: Eligible studies were randomized controlled trials (RCTs) and quasi-randomized controlled trials (Q-RCTs) that compared environmental interventions, behavioral interventions or both, versus control (usual care or no intervention); or that compared different types of environmental or behavioral interventions. Eligible study populations were older people (aged 60 and over) with irreversible visual impairment, living in their own homes or in residential settings. To be eligible for inclusion, studies must have included a measure of physical activity or falls, the two primary outcomes of interest. Secondary outcomes included fear of falling, and quality of life.

DATA COLLECTION AND ANALYSIS: We used standard Cochrane methods. We assessed the certainty of the evidence using the GRADE approach.

MAIN RESULTS: We included six RCTs (686 participants) conducted in five countries (Australia, Hungary, New Zealand, UK, US) with follow-up periods ranging from two to 12 months. Participants in these trials included older adults (mean age 80 years) and were mostly female (69%), with visual impairments of varying severity and underlying causes. Participants mostly lived in their homes and were physically independent. We classified all trials as having high risk of bias for masking of participants, and three trials as having high or unclear risk of bias for all other domains. The included trials evaluated various intervention strategies (e.g. an exercise program versus home safety modifications). Heterogeneity of study characteristics, including interventions and outcomes, (e.g. different fall measures), precluded any meta-analysis. Two trials compared the home safety modification by occupational therapists versus social/home visits. One trial (28 participants) reported physical activity at six months and showed no evidence of a difference in mean estimates between groups (step counts: mean difference (MD) = 321, 95% confidence interval (CI) -1981 to 2623; average walking time (minutes): MD 1.70, 95% CI -24.03 to 27.43; telephone questionnaire for self-reported physical activity: MD -3.68 scores, 95% CI -20.6 to 13.24; low-certainty of evidence for each outcome). Two trials reported the proportion of participants who fell at six months (risk ratio (RR) 0.76, 95% CI 0.38 to 1.51; 28 participants) and 12 months (RR 0.59, 95% CI 0.43 to 0.80, 196 participants) with low-certainty of evidence for each outcome. One trial (28 participants) reported fear of falling at six months, using the Short Falls Efficacy Scale-International, and found no evidence of a difference in mean estimates between groups (MD 2.55 scores, 95% CI -0.51 to 5.61; low-certainty of evidence). This trial also reported quality of life at six months using 12-Item Short Form Health Survey, and showed no evidence of a difference in mean estimates between groups (MD -

3.14 scores, 95% CI -10.86 to 4.58; low-certainty of evidence). Five trials compared a behavioral intervention (exercise) versus usual activity or social/home visits. One trial (59 participants) assessed self-reported physical activity at six months and showed no evidence of a difference between groups (MD 9.10 scores, 95% CI -13.85 to 32.5; low-certainty of evidence). Three trials investigated different fall measures at six or 12 months, and found no evidence of a difference in effect estimates (RRs for proportion of fallers ranged from 0.54 (95% CI 0.29 to 1.01; 41 participants); to 0.93 (95% CI 0.61 to 1.39; 120 participants); low-certainty of evidence for each outcome). Three trials assessed the fear of falling using Short Falls Efficacy Scale-International or the Illinois Fear of Falling Measure from two to 12 months, and found no evidence of a difference in mean estimates between groups (the estimates ranged from -0.88 score (95% CI -2.72 to 0.96, 114 participants) to 1.00 score (95% CI -0.13 to 2.13; 59 participants); low-certainty of evidence). One trial (59 participants) assessed the European Quality of Life scale at six months (MD -0.15 score, 95% CI -0.29 to -0.01), and found no evidence of a clinical difference between groups (low-certainty of evidence).

AUTHORS' CONCLUSIONS: There is no evidence of effect for most of the environmental or behavioral interventions studied for reducing physical activity limitation and preventing falls in visually impaired older people. The certainty of evidence is generally low due to poor methodological quality and heterogeneous outcome measurements. Researchers should form a consensus to adopt standard ways of measuring physical activity and falls reliably in older people with visual impairments. Fall prevention trials should plan to use objectively measured or self-reported physical activity as outcome measures of reduced activity limitation. Future research should evaluate the acceptability and applicability of interventions, and use validated questionnaires to assess the adherence to rehabilitative strategies and performance during activities of daily living.

Database: Medline

2. Recent trends in vision impairment certifications in England and Wales.

Author(s): Rahman, Farzana; Zekite, Antra; Bunce, Catey; Jayaram, Hari; Flanagan, Declan

Source: Eye (London, England); Jul 2020; vol. 34 (no. 7); p. 1271-1278

Publication Date: Jul 2020

Publication Type(s): Journal Article

PubMedID: 32291405

Available at Eye (London, England) - from Unpaywall

Abstract:

BACKGROUND: The Certificate of Visual Impairment (CVI) provides essential data for preventable sight loss indicators as part of the Public Health Outcomes Framework (PHOF) published annually by the Department of Health. Trends in CVI certification rates can provide information on the effectiveness of current services and treatments and may be used to guide allocation of resources, and is the only such indicator within ophthalmology. This study aimed to compare recent trends in new vision impairment certifications in 2017/18 against prior baseline data in England and document trends in new certifications in Wales.

METHODS: PHOF data from 2010/11 and 2017/18 were examined with respect to preventable sight loss indicators: age-related macular degeneration (AMD) (Indicator E12a), glaucoma (Indicator E12b), diabetic eye disease (Indicator E12c) as well as the total numbers of certifications (Indicator E12d).

RESULTS: In 2017/18, the rate of new CVI certifications was 41 per 100,000 population which has reduced from 43/100,000 in 2010/11 in England. Certifications for AMD reduced from 132/100,000 in 2010/11 to 107/100,000 in 2017-18. Certifications for glaucoma have remained stable at 13/100,000 in 2017/8. Certifications for diabetic eye disease have declined from 4/100,000 in 2010/11 to 3/ 100,000 in 2017/18. The number of vision impaired individuals that each Clinical Commissioning Group (CCG) has to support varies from 8 to 82 per 100,000 population.

CONCLUSIONS: There has been a significant decrease in the rate of all CVI certifications particularly from AMD and diabetic retinopathy. However, maintaining this will require changes in the way care is delivered as the elderly population, which is at greatest risk of preventable sight loss, is projected to increase by 50% over the next 20 years. Inherited retinal diseases are now the leading cause of sight loss in the working age population. CVI data

demonstrate the need for CCGs to tailor their investment in ophthalmic services to the needs of their specific patient populations. It is important that all ophthalmologists continue to provide accurate CVI data in order to help support the future equitable allocation of adequate resources to reduce avoidable vision loss.

Database: Medline

3. The ORNATE India Project: United Kingdom-India Research Collaboration to tackle visual impairment due to diabetic retinopathy.

Author(s): Sivaprasad, S; Raman, R; Conroy, D; Mohan; Wittenberg, R; Rajalakshmi, R; Majeed, A; Krishnakumar, S; Prevost, T; Parameswaran, S; Turowski, P; Maheswari, U; Khobragade, R; Netuveli, G; Sadanandan, R; Greenwood, J; Ramasamy, K; Rao, M; Bergeles, C; Das, T; ORNATE India Project Group

Source: Eye (London, England); Jul 2020; vol. 34 (no. 7); p. 1279-1286

Publication Date: Jul 2020

Publication Type(s): Journal Article

PubMedID: 32398841

Available at Eye (London, England) - from Unpaywall

Abstract:

INTRODUCTION: The ORNATE India project is funded by the UK Research and Innovation (UKRI) through the Global Challenges Research Fund. The aim is to build research capacity and capability in India and the UK to tackle global burden of diabetes-related visual impairment. As there are over 77 million people with diabetes in India, it is challenging to screen every person with diabetes annually for sight-threatening diabetic retinopathy (DR). Therefore, alternate safe approaches need to be developed so that those at-risk of visual impairment due to DR is identified promptly and treated.

METHODS: The project team utilised diverse global health strategies and research methods to co-design work packages to build research capacity and capability to ensure effective, affordable and efficient DR services are made available for the population. The strategies and methods employed included health system strengthening; implementation science; establishing care pathways; co-designing collaborative studies on affordable technologies, developing quality standards and guidelines to decrease variations in care; economic analysis; risk modelling and stratification. Five integrated work packages have been developed to deal with all aspects of DR care. These included implementation of a DR screening programme in the public health system in a district in Kerala, evaluating regional prevalence of diabetes and DR and assessing ideal tests for holistic screening for diabetes and its complications in 20 areas in India, utilising artificial intelligence on retinal images to facilitate DR screening, exploring biomarker and biosensor research to detect people at risk of diabetes complications, estimating cost of blindness in India and risk modelling to develop risk-based screening models for diabetes and its complications. A large collaborative network will be formed to propagate research, promote shared learning and bilateral exchanges between high- and middle-income countries to tackle diabetes-related blindness.

Database: Medline

4. 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; Jun 2020

Publication Date: Jun 2020

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

5. Management of nystagmus in children: a review of the literature and current practice in UK specialist services.

Author(s): Self, J E; Dunn, M J; Erichsen, J T; Gottlob, I; Griffiths, H J; Harris, C; Lee, H; Owen, J; Sanders, J; Shawkat, F; Theodorou, M; Whittle, J P; Nystagmus UK Eye research group (NUKE)

Source: Eye (London, England); Sep 2020; vol. 34 (no. 9); p. 1515-1534

Publication Date: Sep 2020

Publication Type(s): Journal Article Review

PubMedID: 31919431

Available at Eye (London, England) - from Unpaywall

Abstract:

Nystagmus is an eye movement disorder characterised by abnormal, involuntary rhythmic oscillations of one or both eyes, initiated by a slow phase. It is not uncommon in the UK and regularly seen in paediatric ophthalmology and adult general/strabismus clinics. In some cases, it occurs in isolation, and in others, it occurs as part of a multisystem disorder, severe visual impairment or neurological disorder. Similarly, in some cases, visual acuity can be normal and in others can be severely degraded. Furthermore, the impact on vision goes well beyond static acuity alone, is rarely measured and may vary on a minute-to-minute, day-to-day or month-to-month basis. For these reasons, management of children with nystagmus in the UK is varied, and patients report hugely different experiences and investigations. In this review, we hope to shine a light on the current management of children with nystagmus across five specialist centres in the UK in order to present, for the first time, a consensus on investigation and clinical management.

Database: Medline

6. Evaluating the impact of information and support for people with nystagmus in the digital age: A patient and carer questionnaire study.

Author(s): Gummer, S L; Evans, M; Cygan, A; Osborne, D; Griffiths, H J; Lee, H; Self, J E

Source: Current eye research; Jun 2020; vol. 45 (no. 6); p. 713-717

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 31876191

Abstract:

Background: Nystagmus is a disorder of rhythmic, involuntary oscillations of the eyes and can be classified as either infantile or acquired. Whether it occurs in isolation or as a part of other visual or neurological disorders, it causes significant visual dysfunction and problems with social functioning. In this study, we seek to understand ways in which people with nystagmus are currently supported across the UK and identify any geographical variations or disconnects between current practice and best practice, as judged by patients and their carers.

Methods: A nationwide, qualitative, cross-sectional, questionnaire study of people with nystagmus and their carers. Recruitment was achieved through specialist clinics, charity events, online advertisements and social media calls. Data was gathered using five, age-appropriate questionnaires which were completed and returned to the research team between November 2016 and August 2018.Results: 184 respondents were included (89 carers, 47 patients aged 4-10 years, 5 aged 11-14 years, 4 aged 15-17 years and 39 > 18 years). Notably, respondents rated social media as the best source of information they have received, even compared with face-to-face consultation with medical professionals. Additionally, only 33% of the respondents had been offered visual impairment support. Notably, patterns of clinical practice and patient experience emerged according to geographical location, particularly provision of initial information and ongoing VI support.

Conclusions: This study highlights a significant variation in the support and information received by people in the UK with nystagmus. It also supports the role of charities and increasingly, social media in the provision of patient information. The study also highlights the need for standardized guidelines for the management of patients with nystagmus, particularly with regard to support and information.

Database: Medline

7. Impact of an intervention to support hearing and vision in dementia: The SENSE-Cog Field Trial.

Author(s): Leroi, Iracema; Simkin, Zoe; Hooper, Emma; Wolski, Lucas; Abrams, Harvey; Armitage, Christopher J; Camacho, Elizabeth; Charalambous, Anna Pavlina; Collin, Fideline; Constantinidou, Fofi; Dawes, Piers; Elliott, Rachel; Falkingham, Sue; Frison, Eric; Hann, Mark; Helmer, Catherine; Himmelsbach, Ines; Hussain, Hannah; Marié, Sarah; Montecelo, Susana; Thodi, Chryssoula; Yeung, Wai Kent

Source: International journal of geriatric psychiatry; Apr 2020; vol. 35 (no. 4); p. 348-357

Publication Date: Apr 2020

Publication Type(s): Journal Article

PubMedID: 31713262

Available at International journal of geriatric psychiatry - from Wiley Online Library

Available at International journal of geriatric psychiatry - from Unpaywall

Abstract:

OBJECTIVES: Hearing, vision, and cognitive impairment commonly co-occur in older adults. Improving sensory function may positively impact outcomes in people with dementia (PwD). We developed a "sensory intervention" (SI) to support hearing and vision in PwD. Here, we report the findings of an international open-label field trial, and nested case series, to explore the impact of the SI on dementia-related outcomes.

METHODS: This was a home-based trial conducted in France, England, and Cyprus. Participants were people with mild-to-moderate dementia and hearing and/or vision impairment (n = 19) and their study partners (unpaid carers; n = 19). The "basic" SI included a hearing and vision assessment and provision of glasses and/or hearing aids. A subsample received the "extended" SI with additional weekly visits from a sensory support therapist (SST). Exploratory analyses of dementia-related, health utility and resource utilisation outcomes were performed.

RESULTS: Quality of life (QoL) and sensory functional ability improved. Change in QoL exceeded the threshold for a minimum clinically important difference. There was a modest improvement (in absolute terms) post intervention in behavioural disturbance, self-efficacy, and relationship satisfaction. Study partner time assisting instrumental activities of daily living (iADL) and supervision decreased by about 22 and 38 hours per month, respectively, although time for personal ADL support increased. Qualitative data supported effectiveness of the intervention: PwD were more socially engaged, less isolated, less dependent on study partners, and had improved functional ability and communication.

CONCLUSIONS: These findings support the need for a definitive randomised controlled trial (RCT) to evaluate the effectiveness of the intervention.

Database: Medline

8. The cost burden of falls in people with glaucoma in National Health Service Hospital Trusts in the UK.

Author(s): McGinley, Patrick; Ansari, Ejaz; Sandhu, Harjit; Dixon, Tricia

Source: Journal of medical economics; Jan 2020; vol. 23 (no. 1); p. 106-112

Publication Date: Jan 2020

Publication Type(s): Journal Article

PubMedID: 31322025

Available at Journal of medical economics - from Unpaywall

Abstract:

Aims: Falls have devastating consequences in older people with a considerable cost burden. Glaucoma is a risk factor for falls, and patients with glaucoma who fall are at high risk of hospital admission. The aim was to quantify the cost burden of falls to NHS Trusts in people with glaucoma in the UK.

Methods: Financial data were used to identify non-elective episodes and associated costs from 2012 to 2018, for all admissions where glaucoma was recorded as a secondary diagnosis and admissions for falls (all, with and without a glaucoma secondary diagnosis). A secondary diagnosis is only recorded by the admitting clinician if it is clinically relevant; therefore, a secondary diagnosis of glaucoma was used as a proxy for glaucoma as a contributory factor to falls.

Limitations: Use of financial records means that data on other falls risk factors was unavailable and we cannot be certain that glaucoma was the only relevant factor in all falls. Although this methodology is imperfect, case capture was biased towards cases with clinically significant glaucoma, and financial data is robust. Potential coding errors mean that we may have excluded patients in whom glaucoma was a factor in their fall.

Results: At Maidstone and Tunbridge Wells (MTW) NHS Trust, 11.7% (95% confidence intervals [CI] = 10.7-12.8) of admissions for falls were in patients with a secondary diagnosis of glaucoma. This extrapolates to an estimated annual 10,056 admissions at a cost of £28.6 million across the UK. This is an under-estimate of cost, as A&E attendance without admission and outpatient appointments are excluded.

Conclusions: At MTW, glaucoma potentially plays a part in around one in eight falls resulting in hospital admission, at considerable personal and financial cost. It is suggested that further work should explore early diagnosis of glaucoma, treatment, and mitigation of falls risk.

Database: Medline

9. Spectacle correction versus no spectacles for prevention of strabismus in hyperopic children.

Author(s): Jones-Jordan, Lisa; Wang, Xue; Scherer, Roberta W; Mutti, Donald O

Source: The Cochrane database of systematic reviews; Apr 2020; vol. 4 ; p. CD007738

Publication Date: Apr 2020

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

PubMedID: 32240551

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

Abstract:

BACKGROUND: Hyperopia in infancy requires accommodative effort to bring images into focus. Prolonged accommodative effort has been associated with an increased risk of strabismus. Strabismus may result in asthenopia and intermittent diplopia, and makes near work tasks difficult to complete. Spectacles to correct hyperopic refractive error is believed to prevent the development of strabismus.

OBJECTIVES: To assess the effectiveness of prescription spectacles compared with no intervention for the prevention of strabismus in infants and children with hyperopia.

SEARCH METHODS: We searched CENTRAL (2018, Issue 12; which contains the Cochrane Eyes and Vision Trials Register); Ovid MEDLINE; Embase.com; three other databases; and two trial registries. We used no date or language restrictions in the electronic search for trials. We last searched the electronic databases on 4 December 2018.

SELECTION CRITERIA: We included randomized controlled trials and quasi-randomized trials investigating spectacle intervention or no treatment for children with hyperopia. We required hyperopia to be at least greater than +2.00 diopters (D).

DATA COLLECTION AND ANALYSIS: We used standard Cochrane methodological procedures. The primary outcome was the proportion of children with manifest strabismus, as defined by study investigators. Other outcomes included the amblyopia, stereoacuity, and the effect of spectacle use of strabismus and visual acuity. We also collected information on change in refractive error as a measurement of the interference of emmetropization.

MAIN RESULTS: We identified four randomized controlled trials (985 children enrolled who were aged six months to less than 36 months) in this review. Three trials were in the UK with follow-up periods ranging from one to 3.5 years and one in the US with three years' follow-up. Investigators reported both incidence and final status regarding strabismus. Evidence of the incidence of strabismus, measured in 804 children over three to four years in four trials was uncertain although suggestive of a benefit with spectacle use (risk ratio (RR) 0.65, 95% confidence interval (CI) 0.41 to 1.02). We have very low confidence in these results due to high risk of bias, inconsistency, and imprecision. When assessed as the proportion of children with strabismus at the end of three years' follow-up, we found a similar level of evidence for an effect of spectacles on strabismus as reported in one study (RR 1.00, 95% CI 0.31 to 3.25; 106 children). We have very low confidence in these results because of low sample size and risk of bias. One trial reported on the risk for developing amblyopia and inadequate stereoacuity after three years in 106 children. There was unclear evidence for a decreased risk of developing amblyopia (RR 0.78, 95% CI 0.31 to 1.93), and limited evidence for a benefit of spectacles for prevention of inadequate stereoacuity (RR 0.38, 95% CI 0.16 to 0.88). We have very low confidence in these findings due to imprecision and risk of bias. The risk of not developing emmetropization is unclear. One trial reported on the proportion of children not achieving emmetropization at three years' follow-up (RR 0.75, 95% CI 0.18 to 3.19). One trial suggested spectacles impede emmetropization, and one trial reported no difference. These two trials could not be combined because the methods for assessing emmetropization were different. With the high risk of bias and inconsistency, the certainty of evidence for a risk for impeding or benefiting emmetropization is very low. Based on a meta-analysis of four trials (770 children), the risk of having visual acuity worse than 20/30 measured up to three years of age or at the end of three years of follow-up was uncertain for children with spectacle correction compared with those without correction (RR 0.87, 95% CI 0.64 to 1.18; very low confidence due to risk of bias and imprecision).

AUTHORS' CONCLUSIONS: The effect of spectacle correction for prevention of strabismus is still unclear. In addition, the use of spectacle on the risk of visual acuity worse than 20/30, amblyopia, and inadequate emmetropization is also unclear. There may be a benefit on prevention of inadequate stereoacuity. However, these effects may have been chance findings or due to bias.

Database: Medline

10. Seeking a practical definition of stable glaucoma: a Delphi consensus survey of UK glaucoma consultants.

Author(s): Lakhani, B K; Giannouladis, K; Leighton, P; King, A J

Source: Eye (London, England); Feb 2020; vol. 34 (no. 2); p. 335-343

Publication Date: Feb 2020

Publication Type(s): Journal Article

PubMedID: 31383993

Abstract:

BACKGROUND: To generate a practical and clinically useful consensus definition of 'stable glaucoma' to aid provision of glaucoma services in the UK and to provide guidance for the criteria that should be used for monitoring of glaucoma patients in primary care services.

METHODS: A Delphi exercise was undertaken to derive consensus through an online questionnaire. Participants were asked to score their strength of agreement for a series of clinical parameters. Results and comments from each round were used to inform subsequent rounds. A total of 3 rounds were undertaken.

RESULTS: Thirty-two glaucoma experts participated in the study with over 90% completion rate achieved over three rounds. The consensus was reached for the following parameters: IOP levels to be used for defining stability, visual field-testing techniques to define stability, the number of medication changes acceptable to define stability and the number of treatment medications allowed to define stability. No consensus was reached on the period of time over which stability was defined, however, there was considerable agreement that longer durations of follow up (36-48 months) were required. A combination of optic disc photos and ocular coherence topography (OCT) retinal nerve fibre layer (RNFL) assessment/ OCT disc structural evaluation are the preferred imaging methods for the assessment of structural stability. Oversight by a glaucoma consultant was considered important for glaucoma monitoring schemes.

CONCLUSION: The consensus definition of glaucoma stability generated through this Delphi exercise provides guidance for allocation of patients suitable for monitoring in primary care glaucoma monitoring schemes.

Database: Medline

11. 10-year trends in English primary care glaucoma prescribing.

Author(s): Hogg, H D Jeffry; Connor, Alan

Source: Eye (London, England); Jan 2020; vol. 34 (no. 1); p. 192-196

Publication Date: Jan 2020

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

PubMedID: 31685974

Abstract:

BACKGROUND: In 2018 NHS prescriptions in England cost £8.83 billion. Within ophthalmic prescribing, glaucoma is the most costly indication. The 2017 glaucoma NICE guideline shows there is little evidence for clinical preference of particular molecules within a therapeutic class, yet the cost of these products varies greatly. We aim to describe trends in glaucoma prescribing and its relation to recent NICE Guidance.

METHODS: Prescription cost analyses for England from 2009 to 2018 were reviewed and data concerning items for the treatment of glaucoma were extracted. Costs and prescription frequencies were normalised for inflation and population.

RESULTS: The 2018 cost of glaucoma prescribing was £114.2 million. This cost is 18.1% lower than in 2009 but the annual number of items prescribed per 10,000 people has increased from 1382 to 1668 (20.7%). This is despite an increased prescription of combination drops from 265 to 478 per 10,000 (80.4%). Preservative free item prescriptions rose from 1.7% of total spend in 2009, at £3.4 million in 2009, to 13.9%, in 2018, at £22.5 million. Generic items represented 11.7% of prescriptions in 2009 and 55.2% in 2018. Around half of glaucoma spending is

accounted for by the use of preservative free or branded items in the place of the cheapest item in each therapeutic class.

CONCLUSIONS: Glaucoma prescribing costs the NHS a great deal. There is a broad trend to generic prescribing as per recent NICE guidance, but significant further costs could be saved with no robustly evidenced clinical consequence.

Database: Medline

12. Care pathways for glaucoma detection and monitoring in the UK.

Author(s): Harper, Robert A; Gunn, Patrick J G; Spry, Paul G D; Fenerty, Cecilia H; Lawrenson, John G

Source: Eye (London, England); Jan 2020; vol. 34 (no. 1); p. 89-102

Publication Date: Jan 2020

Publication Type(s): Journal Article Review

PubMedID: 31700149

Available at Eye (London, England) - from Unpaywall

Abstract: Glaucoma presents considerable challenges in providing clinically and cost-effective care pathways. While UK population screening is not seen as justifiable, arrangements for case finding have historically been considered relatively ineffective. Detection challenges include an undetected disease burden, whether from populations failing to access services or difficulties in delivering effective case-finding strategies, and a high false positive rate from referrals via traditional case finding pathways. The enhanced General Ophthalmic Service (GOS) in Scotland and locally commissioned glaucoma referral filtering services (GRFS) elsewhere have undoubtedly reduced false positive referrals, and there is emerging evidence of effectiveness of these pathways. At the same time, it is recognised that implementing GRFS does not intrinsically reduce the burden of undetected glaucoma and late presentation, and obvious challenges remain. In terms of diagnosis and monitoring, considerable growth in capacity remains essential, and non-medical health care professional (HCP) co-management and virtual clinics continue to be important solutions in offering requisite capacity. National guidelines, commissioning recommendations, and the Common Clinical Competency Framework have clarified requirements for such services, including recommendations on training and accreditation of HCPs. At the same time, the nature of consultant-delivered care and expectations on the glaucoma specialist's role has evolved alongside these developments. Despite progress in recent decades, given projected capacity requirements, further care pathways innovations appear mandated. While the timeline for implementing potential artificial intelligence innovations in streamlining care pathways is far from established, the glaucoma burden presents an expectation that such developments will need to be at the vanguard of future developments.

Database: Medline

13. Diabetic retinopathy and diabetic macular oedema pathways and management: UK Consensus Working Group.

Author(s): Amoaku, Winfried M; Ghanchi, Faruque; Bailey, Clare; Banerjee, Sanjiv; Banerjee, Somnath; Downey, Louise; Gale, Richard; Hamilton, Robin; Khunti, Kamlesh; Posner, Esther; Quhill, Fahd; Robinson, Stephen; Setty, Roopa; Sim, Dawn; Varma, Deepali; Mehta, Hemal

Source: Eye (London, England); Jun 2020; vol. 34 ; p. 1-51

Publication Date: Jun 2020

Publication Type(s): Journal Article Review

PubMedID: 32504038

Available at Eye (London, England) - from Unpaywall

Abstract: The management of diabetic retinopathy (DR) has evolved considerably over the past decade, with the availability of new technologies (diagnostic and therapeutic). As such, the existing Royal College of Ophthalmologists DR Guidelines (2013) are outdated, and to the best of our knowledge are not under revision at present.

Furthermore, there are no other UK guidelines covering all available treatments, and there seems to be significant variation around the UK in the management of diabetic macular oedema (DMO). This manuscript provides a summary of reviews the pathogenesis of DR and DMO, including role of vascular endothelial growth factor (VEGF) and non-VEGF cytokines, clinical grading/classification of DMO vis a vis current terminology (of centre-involving [CI-DMO], or non-centre involving [nCI-DMO], systemic risks and their management). The excellent UK DR Screening (DRS) service has continued to evolve and remains world-leading. However, challenges remain, as there are significant variations in equipment used, and reproducible standards of DMO screening nationally. The interphase between DRS and the hospital eye service can only be strengthened with further improvements. The role of modern technology including optical coherence tomography (OCT) and wide-field imaging, and working practices including virtual clinics and their potential in increasing clinic capacity and improving patient experiences and outcomes are discussed. Similarly, potential roles of home monitoring in diabetic eyes in the future are explored. The role of pharmacological (intravitreal injections [IVT] of anti-VEGFs and steroids) and laser therapies are summarised. Generally, IVT anti-VEGF are offered as first line pharmacologic therapy. As requirements of diabetic patients in particular patient groups may vary, including pregnant women, children, and persons with learning difficulties, it is important that DR management is personalised in such particular patient groups. First choice therapy needs to be individualised in these cases and may be intravitreal steroids rather than the standard choice of anti-VEGF agents. Some of these, but not all, are discussed in this document.

Database: Medline

14. Prevalence of treatment with glaucoma medication in Scotland, 2010-2017.

Author(s): Rotchford, Alan P; Hughes, John; Agarwal, Pankaj Kumar; Tatham, Andrew J

Source: The British journal of ophthalmology; Mar 2020; vol. 104 (no. 3); p. 381-385

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 31097436

Available at The British journal of ophthalmology - from BMJ Journals

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

Abstract:

AIMS: To report the number and demographic distribution of patients receiving intraocular pressure (IOP)-lowering medications across the whole population of Scotland for the years 2010-2017 and, using national census data, show how the observed changes compare with those predicted by the increasing age of the population structure over this period.

METHODS: Data were sourced from the Prescribing Information System of the NHS Information and Statistics Division for Scotland. The number of patients dispensed any IOP-lowering medication from a community pharmacy during each calendar year was collected by gender and by 5-year age bands. National census data were used to model the expected annual increase in treatment numbers due to population ageing.

RESULTS: The number of treated patients in 2017 was 61 249 which represents 1.13% of the whole population (or 2.16% over 40 years of age). The number increased from 48 178 in 2010-an increase over this period of 27.13% (3.88% per year).Prevalence increased with age, reaching 10.67% in those over 90 years. After age adjustment, more men were treated than women (OR 1.26).The expected number treated in 2017 based on census predictions was 54 075 (an increase of 5897 (12.24%) from 2010). The observed growth of 27.13% was 2.22-fold greater than the rate expected by population changes over the period 2010-2017.

CONCLUSION: The number of patients on medication for glaucoma and ocular hypertension in Scotland is increasing. The rate of increase cannot be explained by changes in the size and age structure of the population alone.

Database: Medline

15. Progression from ocular hypertension to visual field loss in the English hospital eye service.

Author(s): Kelly, Stephen R; Khawaja, Anthony P; Bryan, Susan R; Azuara-Blanco, Augusto; Sparrow, John M; Crabb, David P

Source: The British journal of ophthalmology; Oct 2020; vol. 104 (no. 10); p. 1406-1411

Publication Date: Oct 2020

Publication Type(s): Journal Article

PubMedID: 32217541

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND: There are more than one million National Health Service visits in England and Wales each year for patients with glaucoma or ocular hypertension (OHT). With the ageing population and an increase in optometric testing, the economic burden of glaucoma-related visits is predicted to increase. We examined the conversion rates of OHT to primary open-angle glaucoma (POAG) in England and assessed factors associated with risk of conversion.

METHODS: Electronic medical records of 45 309 patients from five regionally different glaucoma clinics in England were retrospectively examined. Conversion to POAG from OHT was defined by deterioration in visual field (two consecutive tests classified as stage 1 or worse as per the glaucoma staging system 2). Cox proportional hazards models were used to examine factors (age, sex, treatment status and baseline intraocular pressure (IOP)) associated with conversion.

RESULTS: The cumulative risk of conversion to POAG was 17.5% (95% CI 15.4% to 19.6%) at 5 years. Older age (HR 1.35 per decade, 95% CI 1.22 to 1.50, p<0.001) was associated with a higher risk of conversion. IOP-lowering therapy (HR 0.45, 95% CI 0.35 to 0.57, p<0.001) was associated with a lower risk of conversion. Predicted 5-year conversion rates for treated and untreated groups were 14.0% and 26.9%, respectively.

CONCLUSION: Less than one-fifth of OHT patients managed in glaucoma clinics in the UK converted to POAG over a 5-year period, suggesting many patients may require less intensive follow-up. Our study provides real-world evidence for the efficacy of current management (including IOP-lowering treatment) at reducing risk of conversion.

Database: Medline

16. Cost-effectiveness of biennial screening for diabetes related retinopathy in people with type 1 and type 2 diabetes compared to annual screening.

Author(s): Thomas, Rebecca L; Winfield, Thomas G; Prettyjohns, Matthew; Dunstan, Frank D; Cheung, Wai-Yee; Anderson, Philippa M; Peter, Rajesh; Luzio, Stephen D; Owens, David R

Source: The European journal of health economics : HEPAC : health economics in prevention and care; Sep 2020; vol. 21 (no. 7); p. 993-1002

Publication Date: Sep 2020

Publication Type(s): Journal Article

PubMedID: 32385543

Available at The European journal of health economics : HEPAC : health economics in prevention and care - from Unpaywall

Abstract:

OBJECTIVE: Examine the health and economic impact of extending screening intervals in people with Type 2 diabetes (T2DM) and Type 1 diabetes (T1DM) without diabetes-related retinopathy (DR).

SETTING: Diabetic Eye Screening Wales (DESW).

STUDY DESIGN: Retrospective observational study with cost-utility analysis (CUA) and Decremental Cost-Effectiveness Ratios (DCER) study.

INTERVENTION: Biennial screening versus usual care (annual screening).

INPUTS: Anonymised data from DESW were linked to primary care data for people with two prior screening events with no DR. Transition probabilities for progression to DR were estimated based on a subset of 26,812 and 1232 people with T2DM and T1DM, respectively. DCER above £20,000 per QALY was considered cost-effective.

RESULTS: The base case analysis DCER results of £71,243 and £23,446 per QALY for T2DM and T1DM respectively at a 3.5% discount rate and £56,822 and £14,221 respectively when discounted at 1.5%. Diabetes management represented by the mean HbA1c was 7.5% for those with T2DM and 8.7% for T1DM.

SENSITIVITY ANALYSIS: Extending screening to biennial based on HbA1c, being the strongest predictor of progression of DR, at three levels of HbA1c 6.5%, 8.0% and 9.5% lost one QALY saving the NHS £106,075; £58,653 and £31,626 respectively for T2DM and £94,696, £37,646 and £11,089 respectively for T1DM. In addition, extending screening to biennial based on the duration of diabetes > 6 years for T2DM per QALY lost, saving the NHS £54,106 and for 6-12 and > 12 years for T1DM saving £83,856, £23,446 and £13,340 respectively.

CONCLUSIONS: Base case and sensitivity analyses indicate biennial screening to be cost-effective for T2DM irrespective of HbA1c and duration of diabetes. However, the uncertainty around the DCER indicates that annual screening should be maintained for those with T1DM especially when the HbA1c exceeds 80 mmol/mol (9.5%) and duration of diabetes is greater than 12 years.

Database: Medline

17. 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; Jul 2020

Publication Date: Jul 2020

Publication Type(s): 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

18. 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); Aug 2020

Publication Date: Aug 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

19. 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); May 2020

Publication Date: May 2020

Publication Type(s): 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

20. Real-World Outcomes of Selective Laser Trabeculoplasty in the United Kingdom.

Author(s): Khawaja, Anthony P; Campbell, Joanna H; Kirby, Nicholas; Chandwani, Hitesh S; Keyzor, Ian; Parekh, Mousam; McNaught, Andrew I; UK Glaucoma Real-World Data Consortium

Source: Ophthalmology; Jun 2020; vol. 127 (no. 6); p. 748-757

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 31952882

Available at Ophthalmology - from Unpaywall

Abstract:

PURPOSE: Selective laser trabeculoplasty (SLT) is a common treatment option for managing glaucoma and ocular hypertension. We assessed the real-world effectiveness of SLT and baseline factors associated with treatment success in the United Kingdom.

DESIGN: Retrospective observational study of de-identified electronic medical records (Medisoft Glaucoma module [Medisoft Ltd, Leeds, UK]) from 5 UK ophthalmology teaching centers.

PARTICIPANTS: Adult patients undergoing their first recorded SLT. For bilateral SLT (same day), analyses included 1 randomly selected eye.

METHODS: Patient demographics, procedure details, and clinical outcomes data were extracted. Factors associated with treatment success were assessed using multivariable Cox regression.

MAIN OUTCOME MEASURES: Change from baseline in intraocular pressure (IOP) and glaucoma medication use at 12 to 18 and 24 to 36 months post-SLT. A Kaplan-Meier survival analysis was also conducted. Failure of SLT was defined as any further glaucoma procedure post-SLT or any of the following at 2 consecutive visits: IOP >21 mmHg, IOP reduction <20% from baseline, or increase in glaucoma medications from baseline.

RESULTS: A total of 831 SLT-treated eyes (mean baseline IOP 22.0 mmHg) of 831 patients were analyzed. At 12 to 18 and 24 to 36 months post-SLT, respectively, significant reductions in IOP (-4.2 [95% confidence interval {CI}, -4.7 to -3.7] and -3.4 [95% CI, -4.1 to -2.7] mmHg; both P 21 mmHg vs. ≤21 mmHg, 95% CI, 0.57-0.80; P < 0.001). Selective laser trabeculoplasty success was not significantly associated with age (P = 0.78), baseline visual field mean deviation (P = 1.00), or concurrent use of IOP-lowering medication (P = 0.52).

CONCLUSIONS: Most patients initially responded to SLT, but the majority failed within 1 year. Efficacy of SLT was better in patients with higher baseline IOP but did not differ by glaucoma severity or concurrent use of IOP-lowering medication. These findings may help inform which patients are suitable for SLT therapy.

Database: Medline

21. Gamma Knife Radiosurgery for Uveal Melanoma: A Retrospective Review of Clinical Complications in a Tertiary Referral Center.

Author(s): Modorati, Giulio Maria; Dagan, Roi; Mikkelsen, Lauge Hjorth; Andreasen, Simon; Ferlito, Alfio; Bandello, Francesco

Source: Ocular oncology and pathology; Mar 2020; vol. 6 (no. 2); p. 115-122

Publication Date: Mar 2020

Publication Type(s): Journal Article

PubMedID: 32258019

Available at Ocular oncology and pathology - from Unpaywall

Abstract: Introduction: Gamma knife radiosurgery (GKR) has shown promising results in the treatment of intraocular uveal melanoma (UM) in terms of local tumor control. However, GKR is not free from potentially sight-threatening

side effects, including cataract, dry eye disease, vitreous hemorrhage, radiation retinopathy (RR), radiation maculopathy (RM), optic neuropathy, and neovascular glaucoma. The aim of this paper is to report our 20-year experience in UM management with GKR focusing on the rate of clinical treatment-induced complications.

Methods: Single-center, retrospective, observational study, including all patients with UM treated at the Ocular Oncology and Uveitis Service, in the Department of Ophthalmology of the San Raffaele Scientific Institute, Milan from September 1993 to September 2018. Clinical charts comprised complete ophthalmological examination with measurement of best-corrected visual acuity, slit-lamp biomicroscopy, intraocular pressure measurement, gonioscopy, and indirect ophthalmoscopy at each visit. B-scan ultrasound (Aviso S, 10 MHz probe; Paris, France), optical coherence tomography (Heidelberg Spectralis; Heidelberg Engineering, Heidelberg, Germany), retinography, and fundus fluorescein angiography (standard or ultra-widefield [UWF; California, Optos, Dunfermline, Scotland, UK]) were performed aiding in the diagnosis of complications.

Results: Overall, 194 patients (100 males, 51.6%) were reviewed. The median age at the time of the treatment was 65 years (range 27-89) and all participants were Caucasian. In 185 eyes (95.4%), the tumor was primarily located at the choroid. The median follow-up was 57.6 months; radiation-induced complications were found in 145 eyes (74.7%). Radiation-induced cataract and RR were the most frequent events, with a relative incidence of 41.2 and 34.5%, respectively, followed by neovascular glaucoma (27.3%), optic neuropathy (18.6%), RM (11.4%), vitreous hemorrhage (14.4%), phthisis bulbi (7.7%), hyphema (0.5%), and corneal melting (0.5%). The shorter onset of side effects involved the optic nerve (median 14.9 months) and the macula (median 13.7 months).

Conclusion: Despite modern and advanced strategies introduced to limit GKR side effects, cataract and RR still represent a serious limitation of this treatment. Incidence of RR was higher in our cohort compared to other reports, probably due to increased diagnosis rate permitted by UWF retinal imaging.

Database: Medline

22. Personalising screening of sight-threatening diabetic retinopathy - qualitative evidence to inform effective implementation.

Author(s): Byrne, P; Thetford, C; Gabbay, M; Clarke, P; Doncaster, E; Harding, S P; ISDR Study Group

Source: BMC public health; Jun 2020; vol. 20 (no. 1); p. 881

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 32513143

Available at BMC public health - from BioMed Central

Available at BMC public health - from Europe PubMed Central - Open Access

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

Available at BMC public health - from EBSCO (MEDLINE Complete)

Available at BMC public health - from Unpaywall

Abstract:

BACKGROUND: Internationally, systematic screening for sight-threatening diabetic retinopathy (STDR) usually includes annual recall. Researchers and policy-makers support extending screening intervals, citing evidence from observational studies with low incidence rates. However, there is little research around the acceptability to people with diabetes (PWD) and health care professionals (HCP) about changing eye screening intervals.

METHODS: We conducted a qualitative study to explore issues surrounding acceptability and the barriers and enablers for changing from annual screening, using in-depth, semistructured interviews analysed using the constant comparative method. PWD were recruited from general practices and HCP from eye screening networks and related specialties in North West England using purposive sampling. Interviews were conducted prior to the commencement of and during a randomised controlled trial (RCT) comparing fixed annual with variable (6, 12 or 24 month) interval risk-based screening.

RESULTS: Thirty PWD and 21 HCP participants were interviewed prior to and 30 PWD during the parallel RCT. The data suggests that a move to variable screening intervals was generally acceptable in principle, though highlighted significant concerns and challenges to successful implementation. The current annual interval was recognised as unsustainable against a backdrop of increasing diabetes prevalence. There were important caveats attached to acceptability and a need for clear safeguards around: the safety and reliability of calculating screening intervals, capturing all PWD, referral into screening of PWD with diabetic changes regardless of planned interval. For PWD the 6-month interval was perceived positively as medical reassurance, and the 12-month seen as usual treatment. Concerns were expressed by many HCP and PWD that a 2-year interval was too lengthy and was risky for detecting STDR. There were also concerns about a negative effect upon PWD care and increasing non-attendance rates. Amongst PWD, there was considerable conflation and misunderstanding about different eye-related appointments within the health care system.

CONCLUSIONS: Implementing variable-interval screening into clinical practice is generally acceptable to PWD and HCP with important caveats, and misconceptions must be addressed. Clear safeguards against increasing non-attendance, loss of diabetes control and alternative referral pathways are required. For risk calculation systems to be safe, reliable monitoring and clear communication is required.

Database: Medline

23. Predictors of selective laser trabeculoplasty success in open angle glaucoma or ocular hypertension: does baseline tonography have a predictive role?

Author(s): Alaghband, Pouya; Galvis, Elizabeth Angela; Daas, Arij; Nagar, Anindyt; Beltran-Agulló, Laura; Khawaja, Anthony P; Goyal, Saurabh; Lim, Kin Sheng

Source: The British journal of ophthalmology; Oct 2020; vol. 104 (no. 10); p. 1390-1393

Publication Date: Oct 2020

Publication Type(s): Journal Article

PubMedID: 31988075

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND: The determinants of success of selective laser trabeculoplasty (SLT) in treatment-naïve patients with open angle glaucoma (OAG) and ocular hypertension (OHT) have not been understood fully. Therefore, we have conducted this study to explore the predictors of success.

METHODS: This is a retrospective review of a pre-existing database of patients who had received primary SLT at St Thomas' Hospital, London, UK. Patients with OAG and OHT who had received primary 360° SLT treatment and had reliable baseline tonographic outflow facility (TOF) with minimum of 1 year of follow-up were included. Univariate and multivariate analyses were performed to find the determinants of success.

RESULTS: One hundred and seventy-four patients between August 2006 and February 2010 had received primary 360° SLT treatment and had baseline TOF measurement. Of these, 72 subjects fulfilled the eligibility criteria. In multivariate regression analysis, the only variable associated with success was baseline intraocular pressure (IOP) (R2=0.32, beta=-0.51, p<0.001, 95% CI -2.02 to -0.74).

CONCLUSION: To our knowledge, this is the only study investigating the pretreatment TOF (measured with electronic Shiøtz tonography) and IOP as determinants of success 12 month's post-360° SLT in treatment-naïve patients with OAG and OHT. This study demonstrated that pretreatment IOP (and not TOF) is the only determinant of success after primary SLT therapy.

Database: Medline

24. Comparing Medium-Term Clinical Outcomes following XEN® 45 and XEN® 63 Device Implantation.

Author(s): Fernández-García, Aitor; Zhou, Ying; García-Alonso, Mercedes; Andrango, Henry D; Poyales, Francisco; Garzón, Nuria

Source: Journal of ophthalmology; 2020; vol. 2020 ; p. 4796548

Publication Date: 2020

Publication Type(s): Journal Article

PubMedID: 32280523

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:

Purpose: To evaluate medium-term clinical outcomes with XEN® 45 or XEN® 63 Gel Stent (Allergan, Dublin, Ireland) for treatment of primary open angle glaucoma (POAG).

Materials and Methods: Retrospective, descriptive, and observational study involving 40 patients implanted with a XEN® 45 Gel Stent and 34 implanted with a XEN® 63 Gel Stent who had undergone POAG surgery and had been followed up and controlled between 12 and 36 months.

Results: IOP dropped from 18.02 ± 5.23 mmHg preop to 13.81 ± 1.88, 14.80 ± 2.23, and 14.62 ± 1.90 at 1, 2, and 3 years after surgery ($p < 0.001$) consecutively with XEN® 45 and from 19.00 ± 6.11 mmHg preop to 15.47 ± 2.45, 14.66 ± 2.45, and 15.46 ± 2.48 at 1, 2, and 3 years after surgery ($p < 0.001$) with XEN® 63. The number of drugs used by patients to treat their glaucoma decreased after undergoing surgery in both groups. Within the XEN® 45 group, mean changes at 1 year, 2 years, and 3 years amounted to 70%, 74.3%, and 37.5%, respectively, whereas within the XEN® 63 group, the mean reduction was 75%, 79.8%, and 71.9%. When comparing the outcomes for two groups, the differences did not prove to be statistically significant. More than 90% of the procedures included in the study (using either gel-stent device) were completed without any noteworthy complications.

Conclusion: POAG surgical procedures with either XEN® 45 or XEN® 63 Gel Stent implantation could be a safe and effective treatment approach.

Database: Medline

25. Molecular diagnostic challenges for non-retinal developmental eye disorders in the United Kingdom.

Author(s): Jackson, Daniel; Malka, Samantha; Harding, Philippa; Palma, Juliana; Dunbar, Hannah; Moosajee, Mariya

Source: American journal of medical genetics. Part C, Seminars in medical genetics; Sep 2020; vol. 184 (no. 3); p. 578-589

Publication Date: Sep 2020

Publication Type(s): Journal Article

PubMedID: 32830442

Available at American journal of medical genetics. Part C, Seminars in medical genetics - from Unpaywall

Abstract: Overall, approximately one-quarter of patients with genetic eye diseases will receive a molecular diagnosis. Patients with developmental eye disorders face a number of diagnostic challenges including phenotypic heterogeneity with significant asymmetry, coexisting ocular and systemic disease, limited understanding of human eye development and the associated genetic repertoire, and lack of access to next generation sequencing as regarded not to impact on patient outcomes/management with cost implications. Herein, we report our real world experience from a pediatric ocular genetics service over a 12 month period with 72 consecutive patients from 62 families, and that from a cohort of 322 patients undergoing whole genome sequencing (WGS) through the Genomics England 100,000 Genomes Project; encompassing microphthalmia, anophthalmia, ocular coloboma (MAC), anterior segment dysgenesis anomalies (ASDA), primary congenital glaucoma, congenital cataract, infantile nystagmus, and albinism. Overall molecular diagnostic rates reached 24.9% for those recruited to the 100,000 Genomes Project (73/293 families were solved), but up to 33.9% in the clinic setting (20/59 families). WGS was able to improve

genetic diagnosis for MAC patients (15.7%), but not for ASDA (15.0%) and congenital cataracts (44.7%). Increased sample sizes and accurate human phenotype ontology (HPO) terms are required to improve diagnostic accuracy. The significant mixed complex ocular phenotypes distort these rates and lead to missed variants if the correct gene panel is not applied. Increased molecular diagnoses will help to explain the genotype-phenotype relationships of these developmental eye disorders. In turn, this will lead to improved integrated care pathways, understanding of disease, and future therapeutic development.

Database: Medline

26. A survey exploring ophthalmologists' attitudes and beliefs in performing Immediately Sequential Bilateral Cataract Surgery in the United Kingdom.

Author(s): Lee, Eunkyung; Balasingam, Bagishan; Mills, Emily C; Zarei-Ghanavati, Mehran; Liu, Christopher

Source: BMC ophthalmology; Jun 2020; vol. 20 (no. 1); p. 210

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 32487105

Available at BMC ophthalmology - from BioMed Central

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

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

Available at BMC ophthalmology - from EBSCO (MEDLINE Complete)

Available at BMC ophthalmology - from Unpaywall

Abstract:

BACKGROUND: The standard approach to treat cataracts is Delayed Sequential Bilateral Cataract Surgery (DSBCS), during which patients have a separate operation date for each eye. An alternative method of delivery is Immediately Sequential Bilateral Cataract Surgery (ISBCS). The aim of this project was to examine the attitudes and beliefs of UK ophthalmologists towards ISBCS, explore their reasons to either practise or not practise ISBCS and identify barriers hindering its implementation in the UK.METHODSA questionnaire was distributed to consultant members of The Royal College of Ophthalmologists (RCOphth, UK) and collected electronically. An initial screening question in regards to prior experience with ISBCS directed the rest of the survey; participants were asked to rate the importance of several factors with regards to performing ISBCS. Free text options were also available. Descriptive analysis was subsequently performed.

RESULTS: Of the 1357 recipients, 130 (9.6%) ophthalmologists completed the survey. Of those, 13.9% were currently performing ISBCS, 83.1% had never performed, and 3.1% had previously done so but since stopped. The main factors that acted as barriers were lack of: (1) College approval (20.5%); (2) medico-legal approval (20.2%); (3) evidence to support the use of ISBCS (16.0%); and (4) hospital approval (13.3%). Additionally, the perceived risk of complications for patients played an important role when considering ISBCS, with the risk of endophthalmitis being most feared.

CONCLUSIONS: This survey demonstrates some of the barriers that prevent ophthalmologist's performing ISBCS in the UK. There is a need for further exploration in this field to evaluate the effect of addressing any of these concerns on the implementation of ISBCS.

Database: Medline

27. Combination Therapy for Macular Oedema in Retinal Vein Occlusions: 3-Year Results from a Real-World Clinical Practice.

Author(s): Horner, Faye; Lip, Peck Lin; Mushtaq, Bushra; Chavan, Randhir; Mohammed, Bashar; Mitra, Arijit

Source: Clinical ophthalmology (Auckland, N.Z.); 2020; vol. 14 ; p. 955-965

Publication Date: 2020

Publication Type(s): Journal Article

PubMedID: 32273680

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

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

Abstract:

Purpose: To report long-term efficacy and treatment outcomes of the combination therapy for treating macular oedema (MO) in retinal vein occlusions (RVOs) from a real-world UK practice.

Methods: The initial reported 66 RVO patients with MO treated with combination therapy (initial Ranibizumab, later optional addition of Ozurdex and laser) were followed up to Year 3: visual acuity (VA) and central retinal thickness (CRT) were analysed against baseline and previous Year 1 results. Safety and adverse events were also recorded.

Results: Baseline LogMAR VA of 0.71 (Snellen 6/30) improved to 0.48 (Snellen 6/18) at Year 3 (p=0.006); 63% experienced VA improvement (40% improved ≥3 lines), 27% had worse vision. Stability of mean VA (6/18) was already achieved at first post-loading phase review and was maintained in each subsequent year. Statistically significant CRT improvement was noted in each year (Year 3 median CRT=264µm) compared to baseline (median CRT=531µm). There was a reduction in the mean number of total injections to 2.5 in Year 3 (vs 5.5 in Year 1). Comparing Year 3 against Year 1, mean Ranibizumab injection frequency was 2.1 vs 4.3; mean Ozurdex injection frequency was 0.2 vs 1.1. In Year 3, 39.6% of patients did not require any form of injections, laser frequency was also reduced to 22.9% (vs 81.8% in Year 1). There was no endophthalmitis in the cohort, one progressed to neovascular glaucoma in Year 2 and mortality rate was recorded as 6%.

Conclusion: Our real-world clinical practice for RVO patients using a combined therapy is associated with good long-term VA and anatomical outcomes with less intravitreal re-treatment rates.

Database: Medline

28. 5 year incidence of YAG capsulotomy and PCO after cataract surgery with single-piece monofocal intraocular lenses: a real-world evidence study of 20,763 eyes.

Author(s): Ursell, Paul G; Dhariwal, Mukesh; O'Boyle, Derek; Khan, Javeed; Venerus, Alessandra

Source: Eye (London, England); May 2020; vol. 34 (no. 5); p. 960-968

Publication Date: May 2020

Publication Type(s): Journal Article

PubMedID: 31616057

Available at Eye (London, England) - from Unpaywall

Abstract:

OBJECTIVES: To evaluate the 3- and 5-year incidence of posterior capsule opacification (PCO) and neodymium-doped yttrium aluminium garnet (Nd:YAG) capsulotomy in patients following cataract surgery, comparing results for different single-piece acrylic hydrophilic and hydrophobic monofocal intraocular lens (IOL) models and other patient factors.

PATIENTS AND METHODS: Electronic medical record data collected from seven United Kingdom (UK) National Health Service (NHS) ophthalmology clinics for routine, age-related (≥65 years) cataract surgeries that implanted single-piece acrylic monofocal IOLs during 2010-2013 were used to calculate 3- and 5-year incidence of Nd:YAG and PCO. IOL models of Alcon Acrysof, AMO Tecnis, Bausch & Lomb (B & L) Akreos, LenStec Softec, and Rayner Flex were analyzed. Pairwise comparisons were conducted between AcrySof IOLs and other IOLs using Bonferroni adjustment for multiplicity. Multivariate analyses were conducted adjusting for known confounders.

RESULTS: The incidence of Nd:YAG capsulotomy ranged between 2.4-12.6% at 3 years and 5.8-19.3% at 5 years post-cataract surgery. Similarly, the incidence of PCO ranged between 4.7-18.6% at 3 years and 7.1-22.6% at 5 years. When comparing all of the single-piece IOLs, AcrySof demonstrated the lowest incidence rates for both PCO and

Nd:YAG (P < 0.001 for each comparison). From adjusted logistic regression analysis, AcrySof were associated with lower 3- and 5-year odds of Nd:YAG and PCO incidence.

CONCLUSIONS: Following cataract surgery with single-piece monofocal IOLs different incidence rates of PCO were observed with different IOLs. AcrySof IOLs were associated with significantly lower incidence of PCO requiring Nd:YAG treatment over periods of 3 and 5 years.

Database: Medline

29. Alterations in retinal arteriolar microvascular structure associate with higher treatment burden in patients with diabetic macular oedema: results from a 12-month prospective clinical trial.

Author(s): Blindbaek, Søren L; Peto, Tunde; Grauslund, Jakob

Source: Acta ophthalmologica; Jun 2020; vol. 98 (no. 4); p. 353-359

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 31654501

Available at Acta ophthalmologica - from Wiley Online Library

Abstract:

PURPOSE: This study was based on data from a 12-month prospective clinical trial and aimed to examine changes in retinal microvascular structure in eyes treated with intravitreal aflibercept in combination with focal/grid laser photocoagulation for diabetic macular oedema (DME).

METHODS: We included 32 treatment naïve eyes of 22 patients with centre involving DME. The treatment algorithm comprised a loading phase of three monthly injections of aflibercept and focal/grid laser photocoagulation [baseline (BL)-month 3 (M3)] followed by a pro re nata (PRN) aflibercept phase until month 12 (M12). Eyes were divided into groups with and without need for PRN treatment after loading. Parameters of retinal microvascular structure were measured in 45° optic disc centred fundus images at BL, M3 and M12 using a semi-automated software (VAMPIRE®, Vessel Assessment and Measurement Platform for Images of the Retina, Universities of Dundee and Edinburgh, UK).RESULTSA significant decrease in retinal arteriolar calibre was demonstrated at both M3 (-11.2 µm, p = 0.005) and M12 (-11.5 µm, p = 0.04) as compared to BL in eyes that needed PRN treatment during follow-up. In contrast, arteriolar calibre remained unchanged in eyes without need for PRN treatment (M3: -1.6 µm, p = 0.79 and M12: -7.0 µm, p = 0.22). For retinal venules, vessel calibre decreased both in eyes with and without need for PRN therapy at M3 (-9.5 µm, p = 0.01 and -11.6 µm, p = 0.01) as well as at M12 (-15.6 µm, p = 0.001 and -11.0 µm, p = 0.04).

CONCLUSION: Early changes in retinal arteriolar calibre are associated with an increased treatment burden during the first year of DME treatment.

Database: Medline

30. Evaluation of 0.2 µg/day fluocinolone acetonide (ILUVIEN) implant in a cohort of previously treated patients with diabetic macular oedema (DMO): a 36-month follow-up clinical case series.

Author(s): Ahmed, Muna; Putri, Christine; Quhill, Hibba; Quhill, Fahd

Source: BMJ open ophthalmology; 2020; vol. 5 (no. 1); p. e000484

Publication Date: 2020

Publication Type(s): Journal Article

PubMedID: 32656358

Available at BMJ open ophthalmology - from Unpaywall

Abstract:

Objective: To assess the real-world effectiveness and safety of single injection of a fluocinolone acetonide (FAc) implant in previously treated patients with recurrent diabetic macular oedema (DMO) over a 36-month follow-up period.

Methods and Analysis: This is a retrospective study conducted at a single ophthalmology department at the Royal Hallamshire Hospital, Sheffield, UK. Data were collected using electronic medical records to identify all patients treated with a FAc implant for DMO between March 2014 and November 2014, followed with a 36-month clinic follow-up. Outcomes measured included mean change in best-recorded visual acuity (BRVA) and central macular thickness (CMT) over the period of 36 months, treatment burden pre-implant and post-implant, and functional and anatomical responder rates.

Results: Twenty-six eyes (n=22 patients) were treated with single intravitreal FAc implant followed with 36 months of follow-up. At 24 and 36 months, 86.4% and 75.0% of patients maintained or gained vision post-FAc implant in routine clinical practice. The mean BRVA increased from 41.8 to 54.6 letters at month 24 and 45.8 letters at month 36, with 50.0% and 33.3% of patients achieving a ≥15 letter improvement at months 24 and 36, respectively. The mean CMT reduced from 600.8 µm at baseline to 351.0 µm and 392.5 µm at months 24 and 36, respectively. Overall, a mean of one treatment every 13.33 months post-FAc implant (vs 3.24 months pre-FAc implant) was reported. Eleven eyes had an increased intraocular pressure of ≥10 mm Hg and 12 eyes had an increase to ≥25 mm Hg from baseline.

Conclusion: These results further support the effectiveness and safety of FAc implant in previously treated patients with persistent or recurrent DMO in a real-world clinical practice.

Database: Medline

31. A randomised, prospective study of 'off-the-shelf' use of toric intraocular lenses for cataract patients with pre-existing corneal astigmatism in the NHS.

Author(s): Stanojcic, Nick; Roberts, Harry; Wagh, Vijay; Zuberbuhler, Bruno; O'Brart, David

Source: Eye (London, England); Oct 2020; vol. 34 (no. 10); p. 1809-1819

Publication Date: Oct 2020

Publication Type(s): Journal Article

PubMedID: 32728226

Abstract:BACKGROUND/OBJECTIVESTo compare visual and refractive outcomes of monofocal intraocular lenses (IOLs) with limbal relaxing incisions (LRI) with 'off-the-shelf' use of toric IOLs (TIOLs), with a fixed 2-dioptre cylinder (DC) correction, for cataract patients with pre-existing corneal astigmatism in a public-sector setting.SUBJECTS/METHODSSeventy-seven patients (77 eyes, first treated eye) with visually significant cataract and pre-operative corneal astigmatism ≥2.00 DC were randomised to receive either 'off-the-shelf' TIOLs, with a fixed 2.00 DC cylinder correction (39 eyes), or monofocal IOLs (38 eyes) with LRIs. The concept of fixing the cylindrical correction was to minimise costs, allow a full TIOL bank to be available and eliminate the need for individual TIOL ordering. Outcome measures were uncorrected distance visual acuity (UDVA), corrected distance visual acuity (CDVA) and refraction. Astigmatic changes were evaluated using the Alpins vector method.RESULTSMean UDVA improved from logMAR 0.88 (SD 0.56)[~20/150] pre-operatively to 0.18 (SD 0.19)[~20/30] post-operatively in TIOL group, versus 0.82 (SD 0.55)[~20/130] to 0.27 (SD 0.15)[~20/40] in monofocal/LRI group (P = 0.02; 95% CI: -0.17, -0.01). Mean CDVA improved from logMAR 0.40 (SD 0.26)[~20/50] to 0.01 (SD 0.12)[~20/20] in TIOL group, and 0.41 (SD 0.38)[~20/40] to 0.06 (SD 0.12)[~20/25] in LRI group (P = 0.07; 95% CI: -0.11, 0.01). Average post-operative refractive cylinder in TIOL group was 1.35 DC (SD 0.84 DC) and in LRI group 1.91 DC (SD 1.07 DC) (P = 0.01; 95% CI: -1, -0.12). Mean difference vector magnitude was 1.92 DC (SD 1.08 DC) in LRI group and 1.37 DC (SD 0.84 DC) in TIOL group (P = 0.02; 95% CI: 0.11, 0.99).CONCLUSIONSTIOLs with a fixed 2.00 DC correction during cataract surgery may improve UDVA, reduce post-operative cylinder and result in a more reliable astigmatic correction compared with monofocal IOLs with LRIs.

Database: Medline

32. Tea tree oil for Demodex blepharitis.

Author(s): Savla, Keyur; Le, Jimmy T; Pucker, Andrew D

Source: The Cochrane database of systematic reviews; Jun 2020; vol. 6 ; p. CD013333

Publication Date: Jun 2020

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

PubMedID: 32589270

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

Abstract:

BACKGROUND: Demodex blepharitis is a chronic condition commonly associated with recalcitrant dry eye symptoms though many people with Demodex mites are asymptomatic. The primary cause of this condition in humans is two types of Demodex mites: Demodex folliculorum and Demodex brevis. There are varying reports of the prevalence of Demodex blepharitis among adults, and it affects both men and women equally. While Demodex mites are commonly treated with tea tree oil, the effectiveness of tea tree oil for treating Demodex blepharitis is not well documented.

OBJECTIVES: To evaluate the effects of tea tree oil on ocular Demodex infestation in people with Demodex blepharitis.

SEARCH METHODS: We searched CENTRAL (which contains the Cochrane Eyes and Vision Trials Register) (2019, Issue 6); Ovid MEDLINE; Embase.com; PubMed; LILACS; ClinicalTrials.gov; and the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP). We used no date or language restrictions in the electronic search for trials. We last searched the databases on 18 June 2019.

SELECTION CRITERIA: We included randomized controlled trials (RCTs) that compared treatment with tea tree oil (or its components) versus another treatment or no treatment for people with Demodex blepharitis.

DATA COLLECTION AND ANALYSIS: Two review authors independently screened the titles and abstracts and then full text of records to determine their eligibility. The review authors independently extracted data and assessed risk of bias using Covidence. A third review author resolved any conflicts at all stages.

MAIN RESULTS: We included six RCTs (1124 eyes of 562 participants; 17 to 281 participants per study) from the US, Korea, China, Australia, Ireland, and Turkey. The RCTs compared some formulation of tea tree oil to another treatment or no treatment. Included participants were both men and women, ranging from 39 to 55 years of age. All RCTs were assessed at unclear or high risk of bias in one or more domains. We also identified two RCTs that are ongoing or awaiting publications. Data from three RCTs that reported a short-term mean change in the number of Demodex mites per eight eyelashes contributed to a meta-analysis. We are uncertain about the mean reduction for the groups that received the tea tree oil intervention (mean difference [MD] 0.70, 95% confidence interval [CI] 0.24 to 1.16) at four to six weeks as compared to other interventions. Only one RCT reported data for long-term changes, which found that the group that received intense pulse light as the treatment had complete eradication of Demodex mites at three months. We graded the certainty of the evidence for this outcome as very low. Three RCTs reported no evidence of a difference for participant reported symptoms measured on the Ocular Surface Disease Index (OSDI) between the tea tree oil group and the group receiving other forms of intervention. Mean differences in these studies ranged from -10.54 (95% CI - 24.19, 3.11) to 3.40 (95% CI -0.70 7.50). We did not conduct a meta-analysis for this outcome given substantial statistical heterogeneity and graded the certainty of the evidence as low. One RCT provided information concerning visual acuity but did not provide sufficient data for between-group comparisons. The authors noted that mean habitual LogMAR visual acuity for all study participants improved post-treatment (mean LogMAR 1.16, standard deviation 0.26 at 4 weeks). We graded the certainty of evidence for this outcome as low. No RCTs provided data on mean change in number of cylindrical dandruff or the proportion of participants experiencing conjunctival injection or experiencing meibomian gland dysfunction. Three RCTs provided information on adverse events. One reported no adverse events. The other two described a total of six participants randomized to treatment with tea tree oil who experienced ocular irritation or discomfort that resolved with re-educating the patient on application techniques and continuing use of the tea tree oil. We graded the certainty of the evidence for this outcome as very low.

AUTHORS' CONCLUSIONS: The current review suggests that there is uncertainty related to the effectiveness of 5% to 50% tea tree oil for the short-term treatment of Demodex blepharitis; however, if used, lower concentrations may be preferable in the eye care arena to avoid induced ocular irritation. Future studies should be better controlled, assess outcomes at long term (e.g. 10 to 12 weeks or beyond), account for patient compliance, and study the effects of different tea tree oil concentrations.

Database: Medline

33. 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; Jul 2020

Publication Date: Jul 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

34. Evaluation of Month-24 Efficacy and Safety of Epimacular Brachytherapy for Previously Treated Neovascular Age-Related Macular Degeneration: The MERLOT Randomized Clinical Trial.

Author(s): Jackson, Timothy L; Soare, Cristina; Petrarca, Caroline; Simpson, Andrew; Neffendorf, James E; Petrarca, Robert; Muldrew, Alyson; Peto, Tunde; Chakravarthy, Usha; Membrey, Luke; Haynes, Richard; Costen, Mark; Steel, David; Desai, Riti; MERLOT Study Group

Source: JAMA ophthalmology; Aug 2020; vol. 138 (no. 8); p. 835-842

Publication Date: Aug 2020

Publication Type(s): Journal Article

PubMedID: 32644148

Available at JAMA ophthalmology - from EBSCO (MEDLINE Complete)

Abstract:

Importance: Although anti-vascular endothelial growth factor (VEGF) treatment offers better outcomes than the natural history of neovascular age-related macular degeneration (ARMD), a less burdensome, less expensive, and more durable treatment is needed.

Objective: To assess the efficacy and safety of epimacular brachytherapy (EMB) for chronic, active, neovascular ARMD.Design, Setting, and ParticipantsThe Macular Epiretinal Brachytherapy vs Ranibizumab (Lucentis) Only Treatment (MERLOT) pivotal device trial was conducted at 24 National Health Service hospitals across the UK. Patients who had neovascular ARMD and received intravitreal ranibizumab were enrolled between November 10, 2009, and January 30, 2012. Eligible patients were randomized 2:1 and were stratified by lens status and angiographic lesion type to receive either EMB plus as-needed ranibizumab or as-needed ranibizumab monotherapy. Participants were followed up monthly for 24 months and then assessed at a final visit at month 36. Masking of participants and clinicians was not possible, but best-corrected visual acuity (BCVA) and imaging were analyzed by masked assessors. Analysis followed the intent-to-treat approach.InterventionsPars plana vitrectomy with 24 Gy EMB plus as-needed ranibizumab vs as-needed ranibizumab monotherapy.

Main Outcomes and Measures: Coprimary outcomes were the number of as-needed ranibizumab injections and the mean change in Early Treatment Diabetic Retinopathy Study (ETDRS) BCVA with a noninferiority margin of -5 ETDRS letters. Secondary outcomes were the percentage of participants losing fewer than 15 ETDRS letters and gaining 0 or more or 15 or more ETDRS letters and the mean change in angiographic total lesion size, choroidal neovascularization size, and foveal thickness on optical coherence tomography.ResultsOf 363 participants, 329 (90.6%) completed 24 months of follow-up (222 participants in the EMB group and 107 in the ranibizumab group). The mean (SD) age of the combined groups was 76.5 (7.4) years. The mean (SD) number of ranibizumab injections was 9.3 (6.7) in the EMB group and 8.3 (4.5) in the ranibizumab group, with a difference of 1.0 injection (95% CI, -0.3 to 2.3; P = .13). The mean (SD) BCVA change was -11.2 (15.7) ETDRS letters in the EMB group and -1.4 (10.9) ETDRS letters in the ranibizumab group, with a difference of 9.8 ETDRS letters (95% CI, -6.7 to -12.9). In the EMB group, 65.6% of participants (160 of 244) lost fewer than 15 ETDRS letters vs 86.6% (103 of 119) in the ranibizumab group, with a difference of 21% (95% CI, 12.4%-29.5%; P < .001). Microvascular abnormalities occurred in 20 of 207 eyes (9.7%) in the EMB group and 1 of 97 eyes (1.0%) in the ranibizumab group. These abnormalities occurred outside the foveal center, and there were no unexpected safety concerns.

Conclusions and Relevance: The MERLOT trial found that despite the acceptable safety of EMB, it did not reduce the number of ranibizumab injections and was associated with worse visual acuity than anti-VEGF treatment alone; these results do not support EMB use as an adjunct treatment for chronic, active neovascular ARMD.Trial RegistrationClinicalTrials.gov Identifier: NCT01006538.

Database: Medline

35. 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; Jun 2020

Publication Date: Jun 2020

Publication Type(s): Journal Article

PubMedID: 32532760

Available at The British journal of ophthalmology - from BMJ Journals

Available at The British journal of ophthalmology - from Unpaywall

Abstract:

BACKGROUND/AIMSClinical 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

36. Abiotrophia defectiva endophthalmitis following routine cataract surgery: the first reported case in the United Kingdom.

Author(s): Chihaia, Madalina; Richardson-May, James; Al-Saffar, Layth; Kettledas, Hiron; Rashid, Mohammed

Source: Access microbiology; 2020; vol. 2 (no. 6); p. acmi000124

Publication Date: 2020

Publication Type(s): Case Reports

PubMedID: 32974588

Available at Access microbiology - from Unpaywall

Abstract:

Introduction: Abiotrophia defectiva is a fastidious organism that has been implicated in severe infections such as endocarditis in immunocompetent patients. Modern tools are available to aid identification, but the main challenge remains clinical suspicion of A. defectiva .

Case presentation: An otherwise fit and well 65-year-old female presented with reduced vision, red eye and discomfort 2 days following routine left cataract surgery. She had visual acuity of light perception only, significant anterior chamber inflammation (including hypopyon) and limited fundal view. She was diagnosed with post-operative endophthalmitis and 0.1 ml of ceftazidime (2 mg/0.1 ml) and 0.1 ml vancomycin (2 mg/0.1 ml) were injected intravitreally after vitreous aspiration. Subconjunctival cefuroxime was also injected. A repeat injection was performed on day three of admission. Gram staining revealed Gram-positive long-chain cocci, which were identified as A. defectiva . The patient was discharged on oral ciprofloxacin 500 mg twice a day with oral prednisolone 60 mg once a day; this was tapered and stopped at 8 weeks post-discharge. The left eye received dexamethasone 0.1 % 6 times a day (again, tapered over 8 weeks), moxifloxacin 5 % 6 times a day and atropine 1 % twice a day. Vision improved to 6/12 unaided (6/9.5 with pinhole) at 9 weeks post-operatively, with a clear fundal view.

Conclusion: We present a case of A. defectiva endophthalmitis following routine cataract surgery. To our knowledge, this is the first reported case in the UK and the fourth globally, which with prompt treatment ended with a good visual outcome.

Database: Medline

37. The relative influence of intellectual disabilities and autism on sensory impairments and physical disability: A whole-country cohort of 5.3 million children and adults.

Author(s): Kinnear ; Rydzewska, Ewelina; Dunn, Kirsty; Hughes-McCormack, Laura; Melville, Craig; Henderson, Angela; Cooper, Sally-Ann

Source: Journal of Applied Research in Intellectual Disabilities; Sep 2020; vol. 33 (no. 5); p. 1059-1068

Publication Date: Sep 2020

Publication Type(s): Academic Journal

Available at Journal of Applied Research in Intellectual Disabilities - from Wiley Online Library

Available at Journal of Applied Research in Intellectual Disabilities - from Unpaywall

Abstract:

Background: Intellectual disabilities and autism are lifelong and often co-occur. Little is known on their extent of independent association with sensory impairments and physical disability.

Methods: For Scotland's population, logistic regressions investigated age–gender-adjusted odds ratios (OR) of associations, independently, of intellectual disabilities and autism with sensory impairments and physical disability.

Results: 1,548,819 children/youth, and 3,746,584 adults. In children/youth, the effect size of intellectual disabilities and autism, respectively, was as follows: blindness (OR = 30.12; OR = 2.63), deafness (OR = 13.98; OR = 2.31), and physical disability (OR = 43.72; OR = 5.62). For adults, the effect size of intellectual disabilities and autism, respectively, was as follows: blindness (OR = 16.89; OR = 3.29), deafness (OR = 7.47; OR = 2.36), and physical disability (OR = 6.04; OR = 3.16).

Conclusions: Intellectual disabilities have greater association with the population burden of sensory impairments/physical disability, but autism is also associated regardless of overlap with intellectual disabilities. These may impact further on communication limitations due to autism and intellectual disabilities, increasing complexity of assessments/management of other health conditions. Clinicians need to be aware of these important issues.

Database: CINAHL

38. Minimally invasive glaucoma shunt delivers for patients.

Author(s): Jayaram, Hari

Source: Ophthalmology Times; Jun 2020; vol. 45 (no. 10); p. 30-31

Publication Date: Jun 2020

Publication Type(s): Trade Publication

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

Abstract:

The article examines the efficacy of the Xen transscleral gelatin stent, originally from AqueSys, in the treatment of patients with minimally invasive glaucoma. Topics discussed include its launch in Europe for use as a primary surgical intervention in the treatment of cataract, a study led by Hari Jayaram of Moorfields Eye Hospital in London, England on Xen's use in the treatment of primary open-angle glaucoma, and the overall infection rate in comparison to the impact of trabeculectomy.

Database: CINAHL

39. Comparison of the eating behaviour and dietary consumption in older adults with and without visual impairment.

Author(s): Jones ; Bartlett, Hannah Elizabeth

Source: British Journal of Nutrition; Mar 2020; vol. 123 (no. 6); p. 712-720

Publication Date: Mar 2020

Publication Type(s): Academic Journal

Available at The British journal of nutrition - from Unpaywall

Abstract:

Globally, a high prevalence of obesity and undernutrition has been reported in people with visual impairment (VI) who have reported multi-factorial obstacles that prevent them from achieving a healthy diet, such as having restricted shopping and cooking abilities. The present study is the first to investigate the relationship between VI and dietary consumption using a representative sample size, standardised methods to categorise VI and a detailed analysis of dietary consumption. Ninety-six participants with VI and an age-matched control group of fifty participants were recruited from across the UK. All participants were aged 50 years or over. The participants completed a 24-h food recall for a period of 3 d. The participants also answered questions about their abilities to shop for and cook food as well as their knowledge of healthy eating. The participants with VI in this sample consumed significantly fewer energy content and other nutrients than is recommended for their age group and when compared with an age-matched control group. The participants with VI mainly made food choices irrespective of nutritional value. The results of the present study highlight for the first time that a large proportion of older adults with VI in the UK are undernourished. These results suggest local and government-led initiatives should be implemented to support the diets of older adults in the UK, and these initiatives could include healthy eating workshops, café clubs or skills training and rehabilitation.

Database: CINAHL

40. Association Between Polygenic Risk Score and Risk of Myopia.

Author(s): Ghorbani Mojarrad ; Plotnikov, Denis; Williams, Cathy; Guggenheim, Jeremy A.

Source: JAMA Ophthalmology; Jan 2020; vol. 138 (no. 1); p. 7-13

Publication Date: Jan 2020

Publication Type(s): Academic Journal

PubMedID: NLM31670792

Available at JAMA ophthalmology - from EBSCO (MEDLINE Complete)

Available at JAMA ophthalmology - from Unpaywall

Abstract

:Importance: Myopia is a leading cause of untreatable visual impairment and is increasing in prevalence worldwide. Interventions for slowing childhood myopia progression have shown success in randomized clinical trials; hence, there is a need to identify which children would benefit most from treatment intervention.

Objectives: To examine whether genetic information alone can identify children at risk of myopia development and whether including a child's genetic predisposition to educational attainment is associated with improved genetic prediction of the risk of myopia.

Design, Setting, and Participants: Meta-analysis of 3 genome-wide association studies (GWAS) including a total of 711 984 individuals. These were a published GWAS for educational attainment and 2 GWAS for refractive error in the UK Biobank, which is a multisite cohort study that recruited participants between January 2006 and October 2010. A polygenic risk score was applied in a population-based validation sample examined between September 1998 and

September 2000 (Avon Longitudinal Study of Parents and Children [ALSPAC] mothers). Data analysis was performed from February 2018 to May 2019.

Main Outcomes and Measures: The primary outcome was the area under the receiver operating characteristic curve (AUROC) in analyses for predicting myopia, using noncycloplegic autorefraction measurements for myopia severity levels of less than or equal to -0.75 diopter (D) (any), less than or equal to -3.00 D (moderate), or less than or equal to -5.00 D (high). The predictor variable was a polygenic risk score (PRS) derived from genome-wide association study data for refractive error (n = 95 619), age of onset of spectacle wear (n = 287 448), and educational attainment (n = 328 917).Results: A total of 383 067 adults aged 40 to 69 years from the UK Biobank were included in the new GWAS analyses. The PRS was evaluated in 1516 adults aged 24 to 51 years from the ALSPAC mothers cohort. The PRS had an AUROC of 0.67 (95% CI, 0.65-0.70) for myopia, 0.75 (95% CI, 0.70-0.79) for moderate myopia, and 0.73 (95% CI, 0.66-0.80) for high myopia. Inclusion in the PRS of information associated with genetic predisposition to educational attainment marginally improved the AUROC for myopia (AUROC, 0.674 vs 0.668; P = .02), but not those for moderate and high myopia. Individuals with a PRS in the top 10% were at 6.1-fold higher risk (95% CI, 3.4-10.9) of high myopia.

Conclusions and Relevance: A personalized medicine approach may be feasible for detecting very young children at risk of myopia. However, accuracy must improve further to merit uptake in clinical practice; currently, cycloplegic autorefraction remains a better indicator of myopia risk (AUROC, 0.87).

Database: CINAHL

41. Incidence and Management of Glaucoma or Glaucoma Suspect in the First Year After Pediatric Lensectomy.

Author(s): Freedman ; Kraker, Raymond T.; Repka, Michael X.; Wallace, David K.; de Alba Campomanes, Alejandra; Yanovitch, Tammy L.; Orge, Faruk H.; Gearinger, Matthew D.

Source: JAMA Ophthalmology; Jan 2020; vol. 138 (no. 1); p. 71-75

Publication Date: Jan 2020

Publication Type(s): Academic Journal

PubMedID: NLM31750862

Available at JAMA ophthalmology - from EBSCO (MEDLINE Complete)

Abstract:

Importance: Glaucoma can occur following cataract removal in children, and determining the risk for and factors associated with glaucoma and glaucoma suspect in a large cohort of children after lensectomy can guide clinical practice.

Objective: To estimate the incidence of glaucoma and glaucoma suspect and describe its management in the first year following lensectomy in children before 13 years of age.

Design, Setting, and Participants: A multicenter clinical research registry containing data for 1361 eyes of 994 children who underwent unilateral or bilateral lensectomy between June 2012 and July 2015 at 1 of 61 sites in the United States (n = 57), Canada (n = 3), and the United Kingdom (n = 1). Patients were eligible for inclusion in the study if they were enrolled in the registry within 45 days after lensectomy and had at least 1 office visit between 6 and 18 months after lensectomy. Patient data were reviewed, and glaucoma and glaucoma suspect were diagnosed by investigators using standardized criteria. Statistical analysis was performed between June 2017 and August 2019.Exposures: Clinical care 6 to 18 months after lensectomy.

Main Outcomes and Measures: Incidence risk using standardized definitions of glaucoma and glaucoma suspect after lensectomy.

Results: Among 702 patients included in this cohort study, 353 (50.3%) were male and 427 (60.8%) were white; mean age at lensectomy was 3.4 years (range, 0.04-12.9 years). After lensectomy, glaucoma or glaucoma suspect was diagnosed in 66 of 970 eyes (adjusted overall incidence risk, 6.3%; 95% CI, 4.8%-8.3%). Glaucoma was diagnosed in 52 of the 66 eyes, and glaucoma suspect was diagnosed in the other 14 eyes. Mean age at lensectomy in these 66 eyes was 1.9 years (range, 0.07-11.2 years), and 40 of the 66 (60.6%) were eyes of female patients. Glaucoma

surgery was performed in 23 of the 66 eyes (34.8%) at a median of 3.3 months (range, 0.9-14.8 months) after lensectomy. The incidence risk of glaucoma or glaucoma suspect was 15.7% (99% CI, 10.1%-24.5%) for 256 eyes of infants 3 months or younger at lensectomy vs 3.4% (99% CI, 1.9%-6.2%) for 714 eyes of infants older than 3 months (relative risk, 4.57; 99% CI, 2.19-9.57; P < .001) and 11.2% (99% CI, 7.6%-16.7%) for 438 aphakic eyes vs 2.6% (99% CI, 1.2%-5.6%) for 532 pseudophakic eyes (relative risk, 4.29; 99% CI, 1.84-10.01; P < .001). No association was observed between risk of developing glaucoma or glaucoma suspect and any of the following variables: sex, race/ethnicity, laterality of lensectomy, performance of anterior vitrectomy, prelensectomy presence of anterior segment abnormality, or intraoperative complications.

Conclusions and Relevance: This study found that glaucoma or glaucoma suspect developed in a small number of eyes in the first year after lensectomy and may be associated with aphakia and younger age at lensectomy. Frequent monitoring for signs of glaucoma following lensectomy is warranted, especially in infants 3 months or younger at lensectomy and in children with aphakia after lensectomy.

Database: CINAHL

42. Assessing strabismus in children.

Author(s): Bommireddy ; Taylor, Kate; Clarke, Michael Patrick

Source: Paediatrics & Child Health; Jan 2020; vol. 30 (no. 1); p. 14-18

Publication Date: Jan 2020

Publication Type(s): Academic Journal

Available at Paediatrics and Child Health - from Unpaywall

Abstract:

Strabismus, also known as a squint, is an ocular misalignment. In the UK the prevalence of strabismus in children is 2.1%. There are multiple causes of strabismus in children; some of which can be sinister and are potentially eye or life threatening. Therefore it is essential that strabismus is identified and managed appropriately and in a timely manner. Amblyopia is frequently associated with strabismus, and can be a cause or a complication of strabismus, it needs to be recognized and treated early to prevent a permanent reduction in visual acuity. This article explains how to correctly assess strabismus in children. A detailed history should be taken, and an ocular examination should be performed using the correct techniques and ocular motility tests. The important red flag features of strabismus in children are also outlined in this article.

Database: CINAHL

Strategy 920585

#	Database	Search term	Results
1	Medline	exp GLAUCOMA/	52790
2	Medline	(Glaucoma).ti,ab	57858
3	Medline	exp "LENS DISEASES"/	33548
4	Medline	(cataract*).ti,ab	55927
5	Medline	((diabetic OR diabetes) AND eye*).ti,ab	16185
6	Medline	(Strabismus).ti,ab	11473
7	Medline	exp "EYELID DISEASES"/	20927
8	Medline	(ectropion OR entropion OR ptosis OR blepharoptosis).ti,ab	11722
9	Medline	exp ASTHENOPIA/	914
10	Medline	(asthenopia).ti,ab	367
11	Medline	exp "VISION DISORDERS"/	72103
12	Medline	(eye ADJ2 strain*).ti,ab	327
13	Medline	((vision OR visual) ADJ2 (disorder* OR disease OR impair*)).ti,ab	23187
14	Medline	(1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13)	251429
15	Medline	exp THERAPEUTICS/	6029949
16	Medline	(treat* OR therap* OR manage OR management).ti,ab	7482811
17	Medline	(15 OR 16)	11101658
18	Medline	(14 AND 17)	111197
19	Medline	(14 AND 17) [DT 2020-2020]	3921

20	Medline	(nhs OR uk OR england OR scotland OR wales OR ireland OR britain OR GB).ti,ab	243160
21	Medline	(18 AND 20) [DT 2020-2020]	75
22	CINAHL	exp GLAUCOMA/	8713
23	CINAHL	(Glaucoma).ti,ab	7854
24	CINAHL	exp "LENS DISEASES"/	3623
25	CINAHL	(cataract*).ti,ab	8546
26	CINAHL	((diabetic OR diabetes) AND eye*).ti,ab	2964
27	CINAHL	(Strabismus).ti,ab	1147
28	CINAHL	exp "EYELID DISEASES"/	2271
29	CINAHL	(ectropion OR entropion OR ptosis OR blepharoptosis).ti,ab	1233
30	CINAHL	exp ASTHENOPIA/	0
31	CINAHL	(asthenopia).ti,ab	34
32	CINAHL	exp "VISION DISORDERS"/	18487
33	CINAHL	(eye ADJ2 strain*).ti,ab	114
34	CINAHL	((vision OR visual) ADJ2 (disorder* OR disease OR impair*)).ti,ab	6965
35	CINAHL	(22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30 OR 31 OR 32 OR 33 OR 34)	45324
36	CINAHL	exp THERAPEUTICS/	1527229
37	CINAHL	(treat* OR therap* OR manage OR management).ti,ab	1603686
38	CINAHL	(36 OR 37)	2619910
39	CINAHL	(35 AND 38) [DT 2020-2020]	960

40	CINAHL	(nhs OR uk OR england OR scotland OR wales OR ireland OR britain OR GB).ti,ab	165741
41	CINAHL	(35 AND 38 AND 40) [DT 2020-2020]	22