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- To bring together a range of recently-published research reports, articles and electronic resources to help all staff keep up-to-date with research and practice.

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Diabetes

1. **Treating Diabetic Macular Oedema (DMO): real world UK clinical outcomes for the 0.19mg Fluocinolone Acetonide intravitreal implant (Iluvien™) at 2 years.**

   **Author(s):** Fusi-Rubiano, William; Mukherjee, Chandoshi; Lane, Mark; Tsaloumas, Marie D; Glover, Nicholas; Kidess, Andrej; Denniston, Alastair K; Palmer, Helen E; Manna, Avinash; Morjaria, Rupal

   **Source:** BMC ophthalmology; Feb 2018; vol. 18 (no. 1); p. 62

   **Publication Date:** Feb 2018

   **PubMedID:** 29486754

   **Abstract:**BACKGROUND To compare visual function and structural improvements in pseudophakic eyes with diabetic macular oedema (DMO) treated with the 0.19mg Fluocinolone Acetonide (FAc) intravitreal implant (IluvienTM) in a 'real world' setting.

   METHODS A single centre retrospective evaluation of patients with DMO unresponsive to conventional treatment treated with the FAc implant according to UK guidelines. Primary efficacy endpoint was best corrected visual acuity (BCVA); secondary endpoints included optical coherence tomography evaluations of the macula (a) central retinal and (b) peak macular thickness collected at annual time points. Primary safety endpoint was new rise in IOP >27mmHg or glaucoma surgery. Patients with <1 year follow-up were excluded.

   RESULTS Twenty-nine eyes were included, with mean(SD) follow-up of 792(270) days. Improvement in BCVA and reduction in macular oedema was noted at all timepoints. Mean improvement in BCVA from baseline was 6 ETDRS letters at year 1(n=29), 6.5L at year 2(n=22) and 11L at year 3(n=6). Mean central retinal thickness at baseline was 451 microns, 337 microns at year 1, 342 microns at year 2 and 314 microns at year 3. Two eyes required IOP-lowering drops post implant. Supplementary treatment for persistence or recurrence of DMO was necessary in 18 eyes over the total study period of 3 years with mean time to supplementary treatment being 12 months.

   CONCLUSIONS Our evaluation of the 0.19mg FAc implant delivered in a real-world setting, provides additional evidence that it is effective and safe in the treatment of patients with DMO, and can provide sustained benefit for patients with previously refractory disease.

   **Database:** Medline

2. **UK AMD/DR EMR REPORT IX: comparative effectiveness of predominantly as needed (PRN) ranibizumab versus continuous aflibercept in UK clinical practice.**

   **Author(s):** Lee, Aaron Y; Lee, Cecilia S; Egan, Catherine A; Bailey, Clare; Johnston, Robert L; Natha, Salim; Hamilton, Robin; Khan, Rehana; Al-Husainy, Sahar; Brand, Christopher; Akerele, Toks; Mckibbin, Martin; Downey, Louise; Tufail, Adnan

   **Source:** The British journal of ophthalmology; Dec 2017; vol. 101 (no. 12); p. 1683-1688
Abstract:AIMSTo compare the effectiveness of continuous aflibercept versus pro re nata (PRN) ranibizumab therapy for neovascular age-related macular degeneration (nAMD).METHODSMulticentre, national electronic medical record (EMR) study on treatment naive nAMD eyes undergoing PRN ranibizumab or continuous (fixed or treat and extend (F/TE)) aflibercept from 21 UK hospitals. Anonymised data were extracted, and eyes were matched on age, gender, starting visual acuity (VA) and year of starting treatment. Primary outcome was change in vision at 1 year.RESULTS1884 eyes (942 eyes in each group) were included. At year 1, patients on PRN ranibizumab gained 1.6 ETDRS (Early Treatment Diabetic Retinopathy Study) letters (95% CI 0.5 to 2.7, p=0.004), while patients on F/TE aflibercept gained 6.1 letters (95% CI 5.1 to 7.1, p=2.2e-16). Change in vision at 1 year of the F/TE aflibercept group was 4.1 letters higher (95% CI 2.5 to 5.8, p=1.3e-06) compared with the PRN ranibizumab group after adjusting for age, starting VA, gender and year of starting therapy. The F/TE aflibercept group had significantly more injections compared with the PRN ranibizumab group (7.0 vs 5.8, p<2.2e-16), but required less clinic visits than the PRN ranibizumab group (10.8 vs 9.0, p<2.2e-16). Cost-effectiveness analysis showed an incremental cost-effectiveness ratio of 58 047.14 GBP/quality-adjusted life year for continuous aflibercept over PRN ranibizumab.CONCLUSIONSflibercept achieved greater VA gains at 1 year than ranibizumab. The observed VA differences are small and likely to be related to more frequent treatment with aflibercept, suggesting that ranibizumab should also be delivered by F/TE posology.

Database: Medline


Author(s): Denniston, Alastair K; Chakravarthy, Usha; Zhu, Haogang; Lee, Aaron Y; Crabb, David P; Tufail, Adnan; Bailey, Clare; Akerele, Toks; Al-Husainy, Sahar; Brand, Christopher; Downey, Louise; Fitt, Alan; Khan, Rehna; Kumar, Vineeth; Lobo, Aires; Mahmood, Saajad; Mandal, Kaveri; Mckibbin, Martin; Menon, Geeta; Natha, Salim; Ong, Jong Min; Tsaloumas, Marie D; Varma, Atul; Wilkinson, Elizabeth; Johnston, Robert L; Egan, Catherine A; UK DR EMR Users Group

Source: The British journal of ophthalmology; Dec 2017; vol. 101 (no. 12); p. 1673-1678

Publication Date: Dec 2017

Publication Type(s): Multicenter Study Journal Article

PubMedID: 28487377

Available at British Journal of Ophthalmology - from BMJ Journals - NHS

Abstract:AIMTo assess the rate of 'treatment-requiring diabetic macular oedema (DMO)' in eyes for the two years before and after cataract surgery.METHODSMulticentre national diabetic retinopathy (DR) database study with anonymised data extraction across 19 centres from an
electronic medical record system. INCLUSION CRITERIA: Eyes undergoing cataract surgery in patients with diabetes with no history of DMO prior to study start. The minimum dataset included: age, visual acuity (all time-points), injection episodes, timing of cataract surgery and ETDRS grading of retinopathy and maculopathy. MAIN OUTCOME MEASURE: Rate of developing first episode of treatment-requiring DMO in relation to timing of cataract surgery in the same eye. RESULTS: 4850 eyes met the inclusion criteria. The rate of developing treatment-requiring DMO in this cohort was 2.9% in the year prior to surgery versus 5.3% in the year after surgery (p<0.01). The risk of 'treatment-requiring DMO' increased sharply after surgery, peaking in the 3-6 months' period (annualised rates of 5.2%, 6.8%, 5.6% and 4.0% for the 0-3, 3-6, 6-9 and 9-12 months' post-operative time periods respectively). Risk was associated with pre-operative grade of retinopathy: risk of DMO in the first year post-operatively being 1.0% (no DR pre-operatively), 5.4% (mild non-proliferative diabetic retinopathy; NPDR), 10.0% (moderate NPDR), 13.1% (severe NPDR) and 4.9% (PDR) (p<0.01).

CONCLUSION: This large real-world study demonstrates that the rate of developing treatment-requiring DMO increases sharply in the year after cataract surgery for all grades of retinopathy, peaking in the 3-6 months' postoperative period. Patients with moderate and severe NPDR are at particularly high risk.

Database: Medline

4. Determining diabetic retinopathy screening interval based on time from no retinopathy to laser therapy.

Author(s): Hughes, Daniel; Nair, Sunil; Harvey, John N

Source: Journal of medical screening; Dec 2017; vol. 24 (no. 4); p. 170-175

Publication Date: Dec 2017

Publication Type(s): Multicenter Study Journal Article

PubMedID: 27810985

Abstract: Objectives: To determine the necessary screening interval for retinopathy in diabetic patients with no retinopathy based on time to laser therapy and to assess long-term visual outcome following screening. Methods: In a population-based community screening programme in North Wales, 2917 patients were followed until death or for approximately 12 years. At screening, 2493 had no retinopathy; 424 had mostly minor degrees of non-proliferative retinopathy. Data on timing of first laser therapy and visual outcome following screening were obtained from local hospitals and ophthalmology units. Results: Survival analysis showed that very few of the no retinopathy at screening group required laser therapy in the early years compared with the non-proliferative retinopathy group (p < 0.001). After two years, <0.1% of the no retinopathy at screening group required laser therapy, and at three years 0.2% (cumulative), lower rates of treatment than have been suggested by analyses of sight-threatening retinopathy determined photographically. At follow-up (mean 7.8 ± 4.6 years), mild to moderate visual impairment in one or both eyes due to diabetic retinopathy was more common in those with retinopathy at screening (26% vs. 5%, p < 0.001), but blindness due to diabetes occurred in only 1 in 1000. Conclusions: Optimum screening intervals should be determined from time to active treatment. Based on requirement for laser therapy, the screening interval for diabetic patients with no retinopathy can be extended to two to three years. Patients who attend for retinal screening and treatment who have no or non-proliferative retinopathy now have a very low risk of eventual blindness from diabetes.

Database: Medline
5. **Real-world experience with 0.2 μg/day fluocinolone acetonide intravitreal implant (ILUVIEN) in the United Kingdom.**

**Author(s):** Bailey, C; Chakravarthy, U; Lotery, A; Menon, G; Talks, J; Medisoft Audit Group  
**Source:** Eye (London, England); Dec 2017; vol. 31 (no. 12); p. 1707-1715  
**Publication Date:** Dec 2017  
**Publication Type(s):** Multicenter Study Journal Article  
**PubMedID:** 28737758  

Abstract: Aims To compare safety outcomes and visual function data acquired in the real-world setting with FAME study results in eyes treated with 0.2 μg/day fluocinolone acetonide (FAc). Methods Fourteen UK clinical sites contributed to pseudoanonymised data collected using the same electronic medical record system. Data pertaining to eyes treated with FAc implant for diabetic macular oedema (DMO) was extracted. Intraocular pressure (IOP)-related adverse events were defined as use of IOP-lowering medication, any rise in IOP >30 mm Hg, or glaucoma surgery. Other measured outcomes included visual acuity, central subfield thickness (CSFT) changes and use of concomitant medications. Results In total, 345 eyes had a mean follow-up of 428 days. Overall, 13.9% of patients required IOP-lowering drops (included initiation, addition and switching of current drops), 7.2% had IOP elevation >30 mm Hg and 0.3% required glaucoma surgery. In patients with prior steroid exposure and no prior IOP-related event, there were no new IOP-related events. In patients without prior steroid use and without prior IOP-related events, 10.3% of eyes required IOP-lowering medication and 4.3% exhibited IOP >30 mm Hg at some point during follow-up. At 24 months, mean best-recorded visual acuity increased from 51.9 to 57.2 letters and 20.8% achieved ≥15-letter improvement. Mean CSFT reduced from 451.2 to 355.5 μm. Conclusions While overall IOP-related emergent events were observed in similar frequency to FAME, no adverse events were seen in the subgroup with prior steroid exposure and no prior IOP events. Efficacy findings confirm that the FAc implant is a useful treatment option for chronic DMO.  
**Database:** Medline

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6. **Patterns of retinal thickness prior to and following treatment with fluocinolone acetonide 190 μg intravitreal implant for diabetic macular edema.**

**Author(s):** Currie, Craig J; Holden, Sarah E; Owens, David R  
**Source:** Current medical research and opinion; Oct 2017; vol. 33; p. 33-43  
**Publication Date:** Oct 2017  
**Publication Type(s):** Research Support, Non-u.s. Gov’t Journal Article  
**PubMedID:** 28881150  

Abstract: Objectives To compare retinal thickness before and after treatment with the fluocinolone acetonide (FAc) 190 μg intravitreal implant in people with diabetic macular edema...
(DME) using data from the Iluvien Clinical Evidence study in the UK (ICE-UK). METHODS For this retrospective cohort study, data on people attending any one of 13 participating ophthalmology departments and treated with FAc intravitreal implant between April 1, 2013 and April 15, 2015 were collected for 12 months prior to and at least 12 months after implantation. Cross-sectional and longitudinal patterns of central foveal thickness (CFT) were compared before and after FAc implant. RESULTS There were 208 people who contributed data from 233 individual eyes treated with the FAc implant. Mean age was 68.1 years and 62% were male. Median (interquartile range) CFT decreased from 462 µm (354-603 µm) at time of implant to 309 µm (222-433 µm) at 12 months post-implant (p < .001). Over the same period, a reduction of ≥10%, ≥25%, and ≥50% in CFT was observed in 113 (65%), 87 (50%), and 37 (21%) treated eyes, respectively. Eyes with a CFT of ≥400 µm at the time of implant were significantly more likely to achieve a reduction in CFT of ≥10%, ≥25%, and ≥50% at 12 months (all p < .001) compared with eyes with a CFT of <400 µm at implant. Both retinal thickness and changes in retinal thickness were loosely correlated with visual acuity. CONCLUSION A marked reduction in retinal thickness was observed in people following FAc intravitreal implant for DME. The response was related to the degree of retinal thickness prior to treatment.

Database: Medline

7. Evaluation of the clinical effectiveness of fluocinolone acetonide 190 µg intravitreal implant in diabetic macular edema: a comparison between study and fellow eyes.

Author(s): Currie, Craig J; Holden, Sarah E; Berni, Ellen; Owens, David R

Source: Current medical research and opinion; Oct 2017; vol. 33 ; p. 19-31

Publication Date: Oct 2017

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

PubMedID: 28881143

Abstract: OBJECTIVES To compare visual and anatomical outcomes between eyes treated with fluocinolone acetonide (FAc) 190 µg intravitreal implant for clinically significant chronic diabetic macular edema (DME) and fellow eyes not treated with FAc implant using data from the Iluvien Clinical Evidence study in the UK (ICE-UK) study. METHODS In this retrospective cohort study, data on people attending hospital eye services and treated with the FAc implant between April 1, 2013 and April 15, 2015 were collected. Changes in visual acuity (VA), central foveal thickness (CFT) and intraocular pressure (IOP) were compared between study eyes (intervention) and fellow eyes. RESULTS A total of 208 people were selected. Mean age was 68.1 years and 62% were male. Mean change in VA was -0.09 LogMAR units for study eyes and 0.04 LogMAR units for fellow eyes at 12 months post-implant (p < .001). Over the same period, ≥5 letter, ≥10 letter and ≥15 letter improvements in Early Treatment Diabetic Retinopathy Study (ETDRS) score were achieved by more FAc treated eyes than by fellow eyes (41% versus 23%, p < .001; 28% versus 11%, p < .001; and 18% versus 4%, p < .001 at 12 months, respectively). Differences in the mean change in CFT (-113 µm versus -13 µm, p < .001) and IOP (3.2 mmHg versus -0.2 mmHg, p < .001) were also observed between study and fellow eyes at 12 months. CONCLUSION Visual acuity improved in study eyes over the 12 months following FAc implant and worsened in fellow eyes. Over the same period, study eyes showed a larger improvement in central foveal thickness. Intraocular pressure worsened in study eyes only. Change in visual acuity, central foveal thickness and intraocular pressure between FAc implant and the end of the 12-month follow-up period differed significantly between study and fellow eyes.

**Author(s):** Holden, Sarah E; Currie, Craig J; Owens, David R

**Source:** Current medical research and opinion; Oct 2017; vol. 33; p. 5-17

**Publication Date:** Oct 2017

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

**PubMedID:** 28881149

**Abstract:**

OBJECTIVE The aim of the Iluvien Clinical Evidence study in the UK (ICE-UK) was to assess the real-world effectiveness of fluocinolone acetonide (FAc) 190 µg intravitreal implant for the treatment of clinically significant chronic diabetic macular edema (DME) in routine clinical practice.

METHODS This retrospective study collected data from patient medical records in 13 ophthalmology centers for people with DME prescribed FAc intravitreal implant between April 1, 2013 and April 15, 2015. Visual acuity (VA) and intraocular pressure (IOP) measurements were collected for 12 months prior to and after implant.

RESULTSTwo hundred and eight people, contributing 233 eyes, treated with FAc implant were included. Mean age was 68.1 years and 62% were male. In the 12 months prior to FAc implant, VA declined. Median (interquartile range, IQR) VA was 0.66 (0.48-1.00) LogMAR units (equivalent to 52.0 ETDRS letters) at implant, improving to 0.60 (0.38-0.90) LogMAR units (55.0 letters) at 12 months post-implant (p < 0.001). In total, 44%, 30%, and 18% of people achieved an improvement in ETDRS score of ≥5, ≥10, and ≥15 letters, respectively, over the same period. A small but significant (p < .001) increase in median IOP was observed (median = 15.0, IQR = 13.0-18.0 mmHg at implant to 18.0, 15.0-21.0 mmHg at 12 months). In the 12 months following implant, additional IOP-lowering therapy was prescribed in 15% of subjects previously not requiring such therapy.

CONCLUSION Following FAc implant, an overall significant improvement in VA was observed over a period of 12 months, accompanied by a significant but small increase in IOP.

**Database:** Medline

9. Does bariatric surgery prevent progression of diabetic retinopathy?

**Author(s):** Chen, Y; Laybourne, J P; Sandinha, M T; de Alwis, N M W; Avery, P; Steel, D H; Medscape

**Source:** Eye (London, England); Aug 2017; vol. 31 (no. 8); p. 1131-1139

**Publication Date:** Aug 2017

**Publication Type(s):** Journal Article

**PubMedID:** 28731054

**Available at Eye - from Europe PubMed Central - Open Access**

Available at Eye - from ProQuest (Hospital Premium Collection) - NHS Version

**Abstract:** PurposeTo assess the changes in diabetic retinopathy (DR) in type 2 diabetes (T2DM) patients post bariatric surgery and report on the risk factors that may be associated with it.

Patients and methodsRetrospective observational study of T2DM patients who underwent bariatric surgery in a UK specialist bariatric unit between 2009 and 2015. Preoperative and
postoperative weight, HbA1c, and annual DR screening results were collected from medical records. Patients with preoperative retinal screening and at least one postoperative retinal screening were eligible for analysis. Multivariate analysis was used to explore significant clinical predictors on postoperative worsening in DR.

Results
A total of 102 patients were eligible for analysis and were followed up for 4 years. Preoperatively, 68% of patients had no DR compared to 30% with background retinopathy, 1% pre-proliferative retinopathy, and 1% proliferative retinopathy. In the first postoperative visit, 19% of patients developed new DR compared to 70% stable and 11% improved. These proportions remained similar for each postoperative visit over time. Young age, male gender, high preoperative HbA1c, and presence of preoperative retinopathy were the significant predictors of worsening postoperatively.

Conclusion
Bariatric surgery does not prevent progression of DR. Young male patients with pre-existing DR and poor preoperative glycaemic control are most at risk of progression. All diabetic patients should attend regular DR screening post bariatric surgery to allow early detection of potentially sight-threatening changes, particularly among those with identifiable risk factors. Future prospective studies with prolonged follow-up are required to clarify the duration of risk.

Database: Medline

10. A meta-analysis of the effect of a dexamethasone intravitreal implant versus intravitreal anti-vascular endothelial growth factor treatment for diabetic macular edema.

Author(s): He, Ye; Ren, Xin-Jun; Hu, Bo-Jie; Lam, Wai-Ching; Li, Xiao-Rong

Source: BMC ophthalmology; May 2018; vol. 18 (no. 1); p. 121

Publication Date: May 2018

Publication Type(s): Meta-analysis Journal Article Review

PubMedID: 29784048

Available at BMC ophthalmology - from BioMed Central

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

Available at BMC ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at BMC ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: BACKGROUND This meta-analysis evaluated the effectiveness and safety of dexamethasone (DEX) implant and intravitreal anti-vascular endothelial growth factor (VEGF) treatment for diabetic macular edema (DME). METHOD The PubMed, Embase, clinicaltrials.gov website and Cochrane Library databases were comprehensively searched for studies comparing DEX implant with anti-VEGF in patients with DME. Best-corrected visual acuity (BCVA), central subfield thickness (CST) and adverse events were extracted from the final eligible studies. Review Manager (RevMan) 5.3 for Mac was used to analyze the data and GRADE profiler were used to access the quality of outcomes. RESULTS Based on four randomized clinical trials assessing a total of 521 eyes, the DEX implant can achieve visual acuity improvement for DME at rates similar to those achieved via anti-VEGF treatment (mean difference [MD] = -0.43, P = 0.35), with superior anatomic outcomes at 6 months (MD = -86.71 μm, P = 0.02), while requiring fewer injections, in comparison to anti-VEGF treatment. Although the mean reduction in CST did not showed significant difference at 12 months (MD = -33.77 μm, P = 0.21), the significant in BCVA from baseline to 12 months supported the anti-VEGF treatment (MD = -3.26, P < 0.00001). No statistically significant differences in terms of the serious adverse events. However, use of the DEX implant has higher risk of intraocular pressure elevation and cataract than anti-VEGF treatment. CONCLUSIONS Compared with anti-VEGF, DEX implant improved anatomical
outcomes significantly. However, this did not translate to improved visual acuity, which may be due to the progression of cataract. Therefore, the DEX implant may be recommended as a first choice for select cases, such as for pseudophakic eyes, anti-VEGF-resistant eyes, or patients reluctant to receive intravitreal injections frequently.

**Database:** Medline

11. **Anti-vascular endothelial growth factor combined with intravitreal steroids for diabetic macular oedema.**

**Author(s):** Mehta, Hemal; Hennings, Charles; Gillies, Mark C; Nguyen, Vuong; Campain, Anna; Fraser-Bell, Samantha

**Source:** The Cochrane database of systematic reviews; Apr 2018; vol. 4 ; p. CD011599

**Publication Date:** Apr 2018

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

**PubMedID:** 29669176

Available at [Cochrane Database of Systematic Reviews](https://www.cochranelibrary.com) - from Cochrane Collaboration (Wiley)

**Abstract:** BACKGROUND The combination of steroid and anti-vascular endothelial growth factor (VEGF) intravitreal therapeutic agents could potentially have synergistic effects for treating diabetic macular oedema (DMO). On the one hand, if combined treatment is more effective than monotherapy, there would be significant implications for improving patient outcomes. Conversely, if there is no added benefit of combination therapy, then people could be potentially exposed to unnecessary local or systemic side effects. OBJECTIVES To assess the effects of intravitreal agents that block vascular endothelial growth factor activity (anti-VEGF agents) plus intravitreal steroids versus monotherapy with macular laser, intravitreal steroids or intravitreal anti-VEGF agents for managing DMO. SEARCH METHODS We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (which contains the Cochrane Eyes and Vision Trials Register) (2018, Issue 1); Ovid MEDLINE; Ovid Embase; LILACS; the ISRCTN registry; ClinicalTrials.gov and the ITRP. The date of the search was 21 February 2018. SELECTION CRITERIA We included randomised controlled trials (RCTs) of intravitreal anti-VEGF combined with intravitreal steroids versus intravitreal anti-VEGF alone, intravitreal steroids alone or macular laser alone for managing DMO. We included people with DMO of all ages and both sexes. We also included trials where both eyes from one participant received different treatments. DATA COLLECTION AND ANALYSIS We used standard methodological procedures recommended by Cochrane. Two authors independently reviewed all the titles and abstracts identified from the electronic and manual searches against the inclusion criteria. Our primary outcome was change in best corrected visual acuity (BCVA) between baseline and one year. Secondary outcomes included change in central macular thickness (CMT), economic data and quality of life. We considered adverse effects including intraocular inflammation, raised intraocular pressure (IOP) and development of cataract. MAIN RESULTS There were eight RCTs (703 participants, 817 eyes) that met our inclusion criteria with only three studies reporting outcomes at one year. The studies took place in Iran (3), USA (2), Brazil (1), Czech Republic (1) and South Korea (1). Seven studies used the unlicensed anti-VEGF agent bevacizumab and one study used licensed ranibizumab. The study that used licensed ranibizumab had a unique design compared with the other studies in that included eyes had persisting DMO after anti-VEGF monotherapy and received three monthly doses of ranibizumab prior to allocation. The anti-VEGF agent was combined with intravitreal triamcinolone in six studies and with an intravitreal dexamethasone implant in two studies. The comparator group was anti-VEGF alone in all
studies; two studies had an additional steroid monotherapy arm, another study had an additional macular laser photocoagulation arm. Whilst we judged these studies to be at low risk of bias for most domains, at least one domain was at unclear risk in all studies. When comparing anti-VEGF/steroid with anti-VEGF monotherapy as primary therapy for DMO, we found no meaningful clinical difference in change in BCVA (mean difference (MD) -2.29 visual acuity (VA) letters, 95% confidence interval (CI) -6.03 to 1.45; 3 RCTs; 188 eyes; low-certainty evidence) or change in CMT (MD 0.20 μm, 95% CI -37.14 to 37.53; 3 RCTs; 188 eyes; low-certainty evidence) at one year. There was very low-certainty evidence on intraocular inflammation from 8 studies, with one event in the anti-VEGF/steroid group (313 eyes) and two events in the anti-VEGF group (322 eyes). There was a greater risk of raised IOP (Peto odds ratio (OR) 8.13, 95% CI 4.67 to 14.16; 635 eyes; 8 RCTs; moderate-certainty evidence) and development of cataract (Peto OR 7.49, 95% CI 2.87 to 19.60; 635 eyes; 8 RCTs; moderate-certainty evidence) in eyes receiving anti-VEGF/steroid compared with anti-VEGF monotherapy. There was low-certainty evidence from one study of an increased risk of systemic adverse events in the anti-VEGF/steroid group compared with the anti-VEGF alone group (Peto OR 1.32, 95% CI 0.61 to 2.86; 103 eyes). One study compared anti-VEGF/steroid versus macular laser therapy. At one year investigators did not report a meaningful difference between the groups in change in BCVA (MD 4.00 VA letters 95% CI -2.70 to 10.70; 80 eyes; low-certainty evidence) or change in CMT (MD -16.00 μm, 95% CI -68.93 to 36.93; 80 eyes; low-certainty evidence). There was very low-certainty evidence suggesting an increased risk of cataract in the anti-VEGF/steroid group compared with the macular laser group (Peto OR 4.58, 95% 0.99 to 21.10, 100 eyes) and an increased risk of elevated IOP in the anti-VEGF/steroid group compared with the macular laser group (Peto OR 9.49, 95% CI 2.86 to 31.51; 100 eyes). One study provided very low-certainty evidence comparing anti-VEGF/steroid versus steroid monotherapy at one year. There was no evidence of a meaningful difference in BCVA between treatments at one year (MD 0 VA letters, 95% CI -6.1 to 6.1, low-certainty evidence). Likewise, there was no meaningful difference in the mean CMT at one year (MD - 9 μm, 95% CI -39.87μm to 21.87μm between the anti-VEGF/steroid group and the steroid group. There was very low-certainty evidence on raised IOP at one year comparing the anti-VEGF/steroid versus steroid groups (Peto OR 0.75, 95% CI 0.16 to 3.55). No included study reported impact of treatment on patients’ quality of life or economic data. None of the studies reported any cases of endophthalmitis.

AUTHORS’ CONCLUSIONS
Combination of intravitreal anti-VEGF plus intravitreal steroids does not appear to offer additional visual benefit compared with monotherapy for DMO; at present the evidence for this is of low-certainty. There was an increased rate of cataract development and raised intraocular pressure in eyes treated with anti-VEGF plus steroid versus anti-VEGF alone. Patients were exposed to potential side effects of both these agents without reported additional benefit. The majority of the evidence comes from studies of bevacizumab and triamcinolone used as primary therapy for DMO. There is limited evidence from studies using licensed intravitreal anti-VEGF agents plus licensed intravitreal steroid implants with at least one year follow-up. It is not known whether treatment response is different in eyes that are phakic and pseudophakic at baseline.

Database: Medline

12. Intravitreal bevacizumab alone or combined with 1 mg triamcinolone in diabetic macular edema: a randomized clinical trial.

Author(s): Riazi-Esfahani, Mohammad; Riazi-Esfahani, Hamid; Ahmadraji, Aliahsghar; Karkhaneh, Reza; Mahmoudi, Alireza; Roohipoor, Ramak; Ghasemi, Fariba; Yaseri, Mehdi

Source: International ophthalmology; Apr 2018; vol. 38 (no. 2); p. 585-598
Abstract: PURPOSE To compare the results of intravitreal bevacizumab (IVB) injection alone or in combination with intravitreal 1 mg triamcinolone acetonide (IVT) in center-involved diabetic macular edema. METHODS In this randomized clinical trial study, ninety-two eyes of 46 patients with bilateral center-involved diabetic macular edema and no previous treatment were included in the study. One eye of each patient was randomly assigned to 1.25 mg of IVB injection or combination of 1.25 IVB and 1 mg IVT. Evaluation of best-corrected visual acuity (BCVA), central macular thickness (CMT), intraocular pressure (IOP) and grading of lens opacity was conducted at baseline, and weeks 2, 4, 6, 8, 12 and 24 after treatment. Retreatment was performed at a 6-week interval whenever indicated based on CMT. RESULTS Between the groups, BCVA changes were not statistically different until 24-week follow-up (P > 0.05), but at 24 weeks after treatment, BCVA improvement was significantly better in IVB group (P = 0.049). Significant CMT reduction was observed in each group along the follow-up period (P = 0.001). The mean CMT reduction was more significant in combination (IVB + IVT) group at 2 weeks of follow-up (P < 0.001), but CMT changes were not significant between the groups at weeks 12th and 24th after injection. Overall, retreatment was applied for 59 eyes up to 24 weeks (33 in the IVB group, 26 in the IVB + IVT group). Among patients with 2 or more injections, number of injections was significantly lower in IVB + IVT group (P = 0.043). Three eyes within IVB + IVT group developed IOP rise beyond 21 mmHg, which were controlled with topical anti-glaucoma medications within 1 week. Changes in lens opacity were not significant between two groups. CONCLUSION Eyes treated with IVB plus 1 mg IVT injections had more significant reduction in CMT in early post-injection, but this effect was transient. Although after 24 weeks visual acuity improvement was better in IVB group, combination therapy may decrease the number of injections. Combining 1 mg of intravitreal triamcinolone with bevacizumab was not accompanied with significant side effects.

Database: Medline


Author(s): Claessen, Heiner; Kvitkina, Tatjana; Narres, Maria; Trautner, Christoph; Zöllner, Iris; Bertram, Bernd; Icks, Andrea

Source: Diabetes care; Mar 2018; vol. 41 (no. 3); p. 478-484

Publication Date: Mar 2018

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

PubMedID: 29317450

Available at Diabetes Care - from EBSCO (MEDLINE Complete)

Abstract: OBJECTIVES Studies comparing the incidence of blindness in persons with and without diabetes are scarce worldwide. In Germany, a decline in the incidence of blindness was found during the 1990s. The aim of this study was to analyze the recent time trend. RESEARCH DESIGN AND METHODS Data were based on administrative files in southern Germany to assess recipients of blindness allowance newly registered between 1 January 2008 and 31 December 2012. We estimated age- and sex-standardized incidence of blindness in people with and people without diabetes and the corresponding relative risk. Poisson regression was used to examine age- and
sex-adjusted time trends. RESULTS We identified 1,897 new cases of blindness (23.7% of which were associated with diabetes). We observed a strong decrease in incidence in both the population with diabetes (2008, 17.3 per 100,000 person-years [95% CI 13.6-21.1], and 2012, 8.9 per 100,000 person-years [6.3-11.6]: 16% decrease [10-22] per year) and that without diabetes (2008, 9.3 per 100,000 person-years [8.3-10.3], and 2012, 6.6 [5.8-7.4]: 9% decrease [5-13] per year). The relative risk comparing those incidences was 1.70 (95% CI 1.32-2.16) and remained constant in the observation period. Regarding time trend, we found similar results for both sexes. CONCLUSIONS We found a significant reduction in incidence of blindness in the populations with and without diabetes, which was more prominent among individuals with diabetes compared with the 1990s. Our findings may be explained by effective secondary prevention therapies and improved ophthalmologic care beyond diabetic retinopathy, particularly regarding macular degeneration, which means earlier detection and earlier and better treatment.

Database: Medline


Author(s): Prager, Sonja G; Lammer, Jan; Mitsch, Christoph; Hafner, Julia; Pemp, Berthold; Scholda, Christoph; Kundi, Michael; Schmidt-Erfurth, Ursula; Kriechbaum, Katharina

Source: Acta ophthalmologica; Mar 2018; vol. 96 (no. 2); p. e195

Publication Date: Mar 2018

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

PubMedID: 29063703

Available at Acta Ophthalmologica - from Wiley Online Library Medicine and Nursing Collection 2018 - NHS

Available at Acta Ophthalmologica - from Wiley Online Library All Journals

Abstract: PURPOSE To evaluate detailed changes in retinal layer thickness in spectral-domain optical coherence tomography (SD-OCT) images during a 1-year follow-up of patients treated for diabetic macula oedema (DME). METHODSPost hoc analysis of retinal layer thickness changes applying the automated layer segmentation of SD-OCT images in eyes with DME that were randomly assigned to receive pro re nata (PRN) treatment with either 0.5 mg ranibizumab or 8 mg triamcinolone. In each patient, seven retinal layers were segmented in 49 scans covering a 20° × 20° area of the macula at baseline and after 1 year of treatment. Changes in individual layer thickness were correlated with visual acuity (VA) and compared between treatment arms. RESULTS Twenty-five patients (seven female, 60.2 ± 15.1 years) were evaluated. Thickness decrease of retinal nerve fibre layer (RNFL) was associated with a gain in VA over 12 months (r > 0.54; p < 0.05). Decrease in ganglion cell layer (GCL) and GCL+IPL thickness pooled for nasal Early Treatment of Diabetic Retinopathy Study (ETDRS) subfields correlated with VA as follows: ranibizumab r = 0.74 (GCL) and r = 0.63 (GCL+IPL); and triamcinolone r = 0.45 (GCL) and r = 0.46 (GCL+IPL). CONCLUSION In DME therapy, reduction in RNFL thickness may have a considerable impact on retinal function, unrelated to the type of pharmacological treatment. Precise morphologic quantification of neurosensory layers by SD OCT offers new insight into disease pathology and therapeutic targets.

Database: Medline
15. Predictive imaging biomarkers relevant for functional and anatomical outcomes during ranibizumab therapy of diabetic macular oedema.

**Author(s):** Gerendas, Bianca S; Prager, Sonja; Deak, Gabor; Simader, Christian; Lammer, Jan; Waldstein, Sebastian M; Guerin, Tadhg; Kundi, Michael; Schmidt-Erfurth, Ursula Margarethe

**Source:** The British journal of ophthalmology; Feb 2018; vol. 102 (no. 2); p. 195-203

**Publication Date:** Feb 2018

**Publication Type(s):** Randomized Controlled Trial Multicenter Study Journal Article Clinical Trial, Phase iii

**PubMedID:** 28724636

Available at British Journal of Ophthalmology - from BMJ Journals - NHS

**Abstract:**

BACKGROUND/AIMS: The objective is to identify imaging biomarkers in optical coherence tomography predicting functional/anatomical outcomes in diabetic macular oedema (DMO).

METHODS: The presented study is a post hoc analysis of the RESTORE/RESTORE-extension studies. Best-corrected visual acuity (BCVA) was analysed using general estimating equation models using treatment group/morphological features as predictor variables. In addition, linear multiple regression models analysed BCVA gain up to 12 and 36 months with BCVA/morphological baseline characteristics as independent predictor variables. The correlations between central retinal thickness (CRT)/BCVA were calculated as Spearman’s/Pearson’s correlation coefficients.

RESULTS: A weak negative linear correlation between CRT/BCVA was observed in all study arms at baseline (r=-0.34, p<0.001) and at month 36 (r=-0.26, p=0.0071, respectively), which was maintained until the end of month 12 (70.5±12.33 vs 67.0±14.09 letters; p=0.0252, respectively). With laser, there was a trend for patients with subretinal fluid (SRF) at baseline to lose BCVA letters at month 12 (-5.38±16.54 vs 2.49±9.72 letters; p=0.1038), whereas ranibizumab patients trended towards higher BCVA gains (10.28±7.14 vs 6.76±7.67; p=0.0563), compared with those without SRF. With combined therapy, all patients had similar BCVA gains regardless of SRF (p=0.3768).

CONCLUSION: With ranibizumab treatment, the height of IRC spaces at baseline was a better predictor of functional/anatomical improvement than CRT alone. There was also a trend for SRF to show a positive impact on ranibizumab therapy response and a negative impact on laser therapy response.

**Database:** Medline

16. CLINICAL EVIDENCE OF THE MULTIFACTORIAL NATURE OF DIABETIC MACULAR EDEMA.

**Author(s):** Chakravarthy, Usha; Yang, Yit; Lotery, Andrew; Ghanchi, Faruque; Bailey, Clare; Holz, Frank G; Downey, Louise; Weber, Michel; Eter, Nicole; Dugel, Pravin U

**Source:** Retina (Philadelphia, Pa.); Feb 2018; vol. 38 (no. 2); p. 343-351

**Publication Date:** Feb 2018

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

**PubMedID:** 28257378

Available at Retina - from PubMed Central

**Abstract:**

PURPOSE: To report functional and morphologic outcomes, based on diabetic macular edema (DME) chronicity and baseline best-corrected visual acuity (BCVA), from a subanalysis of
the fluocinolone acetonide for macular edema (FAME) trials.

**METHODS**

Patients were categorized by DME duration (nonchronic [ncDME] or chronic [cDME] DME) and three nonexclusive baseline vision strata. Anatomic and visual acuity VA outcomes of these cohorts were compared with treatment assignment.

**RESULTS**

For all patients with ncDME and cDME who received sham control, 27.8% and 13.4%, respectively, gained ≥15 BCVA letters, whereas 22.3% and 34.0% of 0.2 μg/day fluocinolone acetonide (FAc)-treated patients, respectively, gained ≥15 BCVA letters. Among patients with ncDME who received sham control, as baseline vision decreased, the percentage gaining ≥15 BCVA letters increased; however, among those with cDME, the percentage gaining ≥15 BCVA letters did not change as baseline vision decreased. Conversely, among 0.2 μg/day FAc-treated patients, the percentage gaining ≥15 BCVA letters increased with decreasing baseline vision, regardless of DME chronicity. Anatomical outcomes were similar within treatment arms, regardless of the DME duration.

**CONCLUSION**

Patients with cDME and poor baseline vision who were exposed to low-dose FAc experienced BCVA improvements that were not observed in a similar group from the sham-control arm. These data support the multifactorial pathogenesis of cDME.

**Database:** Medline

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17. **Extended targeted retinal photocoagulation versus conventional pan-retinal photocoagulation for proliferative diabetic retinopathy in a randomized clinical trial.**

**Author(s):** Nikkhah, Homayoun; Ghazi, Hossein; Razzaghi, Mohammad Reza; Karimi, Saeed; Ramezani, Alireza; Soheilian, Masoud

**Source:** International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 313-321

**Publication Date:** Feb 2018

**Publication Type(s):** Randomized Controlled Trial Journal Article

**PubMedID:** 28168567

Available at [International Ophthalmology](https://www.ncbi.nlm.nih.gov/pubmed/28168567) - from ProQuest (Hospital Premium Collection) - NHS Version

Available at [International Ophthalmology](https://www.ncbi.nlm.nih.gov/pubmed/28168567) - from EBSCO (MEDLINE Complete)

**Abstract:**

PURPOSE: To determine the clinical efficacy of extended targeted retinal photocoagulation (ETRP) compared to conventional panretinal photocoagulation (CPRP) in proliferative diabetic retinopathy (PDR). METHODS: In a single-masked randomized clinical trial, 270 eyes of 234 patients with naïve early or high-risk PDR were randomly assigned to receive either CPRP or ETRP (135 eyes, each treatment arm). Best-corrected visual acuity (BCVA) measurement, fundus examination, wide-field fluorescein angiography (WFFA) and optical coherence tomography were carried out before and 3 months after retinal photocoagulation. Primary outcome was early PDR regression, specified as reduction in retinal neovascularization based on WFFA at 3 months. Secondary outcomes were BCVA and central macular thickness (CMT) changes. RESULTS: There were significantly more high-risk PDR eyes in the ETRP group compared to CPRP (109 and 94 eyes, respectively, P = 0.04). Early PDR regression occurred in 71.9 and 64.4% of eyes in the ETRP and CPRP groups, respectively (P = 0.19). The mean number of applied laser spots in the ETRP was significantly fewer than CPRP (1202 vs. 1360, respectively, P < 0.001). Mean BCVA at baseline and 3 months post-laser were 0.37 ± 0.26 and 0.47 ± 0.19 logMAR in the ETRP arm, respectively. In the CPRP arm these values were 0.40 ± 0.27 and 0.47 ± 0.24 logMAR, respectively. Although mean BCVA decreased significantly in both treatment arms (ETRP P < 0.001, CPRP P = 0.009), the difference was not significant between
arms (P = 0.68). CMT increased significantly in both groups (ETRP 41.08 μm, P < 0.001, CPRP 33.31 μm, P < 0.001). Nevertheless, the difference between the groups was not significant (P = 0.26). CONCLUSION ETRP with fewer number of laser spots may be an appropriate alternative to CPRP in PDR regression at least through 3 months. CLINICAL TRIAL GOV REGISTRATION NUMBER NCT01232179.

Database: Medline

18. Comparison of efficacy of intravitreal ranibizumab between non-vitrectomized and vitrectomized eyes with diabetic macular edema.

Author(s): Chen, Yen-Yi; Chen, Pei-Ying; Chen, Fang-Ting; Chen, Yun-Ju; Wang, Jia-Kang

Source: International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 293-299

Publication Date: Feb 2018

Publication Type(s): Comparative Study Journal Article

PubMedID: 28176171

Available at International Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at International Ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: PURPOSE To compare the efficacy of intravitreal ranibizumab between non-vitrectomized and vitrectomized eyes with diabetic macular edema (DME). STUDY DESIGN A retrospective, nonrandomized, and comparative study. METHODS From May 2013 to March 2016, 148 eyes of 148 patients with treatment-naive center-involving DME were reviewed in one institution. Forty-six eyes underwent prior vitrectomy at least 3 months ago, and 102 eyes did not receive any vitrectomy. Three monthly then PRN intravitreal ranibizumab treatments were performed in all the patients with monthly follow-up for 6 months. Primary outcome measures included change in central foveal thickness (CFT) and best-corrected visual acuity (BCVA) at month 6. RESULTS The CFT significantly reduced, and the BCVA significantly improved 6 months after ranibizumab injections in either vitrectomized or non-vitrectomized groups (p < 0.05). There was no difference between vitrectomized and non-vitrectomized eyes in baseline characteristics. Significantly better final BCVA and visual gain were found in non-vitrectomized eyes than in vitrectomized eyes (p = 0.01 and 0.03, respectively). Final CFT and CFT decrease were significantly greater in non-vitrectomized group than in vitrectomized group (p = 0.02 and 0.006, respectively). Injection number of ranibizumab was 4.12 ± 0.58 in non-vitrectomized eyes, significantly less than that in vitrectomized eyes (5.05 ± 0.71) during 6-month period (p < 0.001). There were no severe systemic/ocular adverse effects in both groups. CONCLUSIONS Intravitreal ranibizumab was helpful for either vitrectomized or non-vitrectomized eyes with DME in short-term follow-up. Anatomical and functional improvements were greater in non-vitrectomized patients than in vitrectomized cases.

Database: Medline


Author(s): Ohara, Zaigen; Tabuchi, Hitoshi; Nakakura, Shunsuke; Yoshizumi, Yuki; Sumino, Hitomi; Maeda, Yukiko; Kiuchi, Yoshiaki

Source: International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 279-286
Purpose: To investigate the changes in choroidal thickness (ChT) following panretinal photocoagulation (PRP) for diabetic retinopathy (DR) and compare ChT in relation to DR severity.

Methods: Thirty-two eyes [19 eyes with proliferative DR (PDR) and 13 eyes with severe nonproliferative DR (NPDR)] for which PRP was necessary were analyzed. ChT was measured before PRP and at 1, 3, and 6 months after PRP using the swept-source optical coherence tomography. ChT of the 61 eyes matched with the PDR patients for the mean age and axial length was also measured and statistically compared in relation to severity.

Results: The central field ChT before PRP treatment was 268.6 ± 104.5 µm (mean ± standard deviation) and was significantly decreased at 1, 3, and 6 months after PRP (254.5 ± 105.3, 254.2 ± 108.2, and 248.1 ± 101.8 µm, respectively, P < 0.0001). The central field ChT of severe NPDR (323.2 ± 61.3 µm) was significantly thicker than that of normal (248.3 ± 70.7 µm) and mild to moderate NPDR (307.3 ± 84.1 µm) was significantly thicker than that of mild to moderate NPDR (P = 0.0169). CONCLUSION: ChT significantly decreased after PRP, which continued for at least 6 months after treatment. ChT of severe NPDR and PDR was significantly thicker than that of mild to moderate NPDR. ChT of patients with DR was changed according to the treatment and severity of DR.

Database: Medline

20. Diabetes and visual problems

Author(s): Nazarko, Linda

Source: Practice Nursing; Jun 2017; vol. 28 (no. 6); p. 242-247

Purpose: With diabetes rates steadily rising, Linda Nazarko offers a guide to the damage it can cause to eyesight, as well as the best methods of detection and treatment. The number of people diagnosed as having diabetes mellitus (DM) has risen from 1.4 million to 3.59 million in the last 17 years and an estimated million people with DM are undiagnosed. Diabetes mellitus (DM) is the leading cause of preventable sight loss in adults of working age (16-64) in the UK (Liew et al, 2014). People with DM are at increased risk of developing, cataracts, glaucoma, diabetic retinopathy and maculopathy (Mukesh et al, 2006: Newman-Casey et al, 2011: Scanlon,
2008). As the number of people who have diabetes grows increasing numbers are at risk of developing visual problems. Early detection of diabetes, managing diabetes well and avoiding damage caused by hyperglycaemia, and screening programmes can reduce the risk of sight loss in people with diabetes. The practice nurse can, by identifying people at risk of diabetes and supporting people with diabetes, reduce the risk of sight loss and make a huge difference to a person’s quality of life. This article explains how diabetes increases the risk of visual problems, how risks can be reduced and how problems can be treated. References

Database: BNI


Author(s): Auger, Nathalie; Tang, Tina; Healy-Profítós, Jessica; Paradis, Gilles
Source: Journal of Diabetes and its Complications; Nov 2017; vol. 31 (no. 11); p. 1565
Publication Date: Nov 2017
Publication Type(s): Journal Article

Abstract: Aims We assessed the long-term risk of cataract following a pregnancy complicated by gestational diabetes. Methods We carried out a longitudinal cohort study of 1,108,541 women who delivered infants between 1989-2013 in Quebec, Canada, with follow-up extending up to 25 years later. The cohort included 71,862 women with gestational diabetes and 5247 with cataracts. We used Cox regression models to estimate hazard ratios (HR) and 95% confidence intervals (CI) for the association of gestational diabetes with subsequent risk of cataract, adjusted for age, parity, socioeconomic status, time period, comorbidity, and type 2 diabetes. Results Women with gestational diabetes had an elevated incidence of cataract (22.6 per 1000) compared with no gestational diabetes (15.1 per 1000), with 1.15 times the risk (95% CI 1.04-1.28). Women with gestational diabetes who subsequently developed type 2 diabetes had a higher risk of cataract compared with no gestational and type 2 diabetes (HR 3.62, 95% CI 3.01-4.35), but women with gestational diabetes who did not develop type 2 diabetes continued to be at risk (HR 1.12, 95% CI 1.00-1.25). Conclusions Gestational diabetes may be an independent risk factor for cataract later in life, although risks are greatest for women who subsequently develop type 2 diabetes.

Database: BNI

Glaucoma


Author(s): Fajgenbaum, Mark; Ansari, Ejaz
Source: Advances in therapy; Aug 2017; vol. 34 (no. 8); p. 2033-2042
Publication Date: Aug 2017
Publication Type(s): Journal Article
INTRODUCTION
The purpose of this study was to determine prescribing trends in a specialist glaucoma clinic in the UK. Specifically, the aims were to determine which drugs were prescribed as first-, second-, and third-line treatment, the persistence of first-, second-, and third-line treatment regimens, and the proportion of treatment decisions conforming to the European Glaucoma Society (EGS) guidelines.

METHODS
A retrospective, non-interventional, single-center, case-note review was performed on a cohort of consecutive patients presenting to a specialist glaucoma clinic for follow-up. Inclusion criteria for the study were (1) a diagnosis of primary open-angle glaucoma or ocular hypertension, (2) glaucoma management entirely within the unit, and (3) minimum of 2 years of follow-up. RESULTS
A total of 114 case notes met the inclusion criteria. Mean age was 71 years (range 40-95 years). Mean length of follow-up was 56 months (range 24-180 months). Prostaglandin analogues (PGA) were the most popular first-line treatment in 73% of patients. As second-line treatment, PGA were again the predominant class, prescribed in 87% of cases, whereas beta-blockers (BB) were prescribed in 70% of cases. Carbonic anhydrase inhibitors (CAI) and alpha-2 agonists (AA) were more popular in third-line regimens. Second-line treatment was introduced at a mean of 28.0 months after first-line treatment (range 1-120 months, 95% CI 22.1-33.9 months). Third-line treatment was introduced at a mean of 22.9 months after second-line treatment (range 1-96 months, 95% CI 17.1-28.8 months). Breaches to EGS guidelines were most common for third-line treatment and included duplication of drug classes.

DISCUSSION
There was a clear hierarchy of PGA as first-line, BB as second-line, while CAI and AA were considered third-line choices. First-line choices were generally in line with EGS guidelines. There was a tendency to breach guidelines by escalating treatment in dual steps rather than single steps (especially in third-line treatment). Combination drops were popular. In third-line treatment there was an increased incidence of prescribing errors. This data is important in terms of informing patients of the expected treatment course, to remind clinicians about best practice, and also to guide comparisons of cost-effectiveness with other treatment modalities.

Database: Medline


Author(s): Hsu, Cherng-Ru; Chen, Yi-Hao; Tai, Ming-Cheng; Lu, Da-Wen

Source: Graefe's archive for clinical and experimental opthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie; Jun 2018; vol. 256 (no. 6); p. 1187-1194

Publication Date: Jun 2018

Publication Type(s): Journal Article

PubMedID: 29502233

Abstract: BACKGROUND
This study aimed to study the long-term surgical outcomes of combined trabeculotomy-trabeculectomy (CTT) using the modified Safer Surgery System in treating childhood glaucoma at a tertiary medical center in Taiwan.

METHODS
Retrospective, consecutive, noncomparative case series. We retrospectively reviewed medical records of 42 pediatric patients (age 0-18 years) who had CTT performed on their 65 eyes using the modified Safer Surgery System. The study period spanned 18 years (from January 1, 1997, to December 31, 2014). We evaluated the outcome in terms of postoperative intraocular pressure (IOP), axial
length growth, disc cupping reversal, and use of antiglaucoma medications. The surgical success was rated using the Kaplan-Meier survival analysis and based on the incidence of complications.

**RESULTS**

The mean follow-up period was 85.05 ± 32.17 months (range 14-200). After operation, IOP dropped significantly from 35.76 ± 9.44 mmHg (mean ± SD) to 16.18 ± 7.20 mmHg together with a significant reversal of optic disc cupping. Similarly, the use of antiglaucoma medications was also significantly reduced in number from 1.26 ± 0.50 to 0.43 ± 0.70. Most of the axial lengths of the eyes measured at the last follow-up visit showed growths within the average ± 2 SDs in comparison with the healthy, age-matched population.

After surgery, the qualified success rate was 90.77% at the end of the first year, 90.77% at the second year, 87.64% at the fifth year, 84.51% at the 10th year, and 81.38% at the 15th year. No serious intraoperative or postoperative complications were found.

**CONCLUSIONS**

For Taiwanese children, the combined trabeculotomy-trabeculectomy using the modified Safer Surgery System offered an efficient and safe surgical option for treating glaucoma with long-term satisfactory control of IOP.

**Database:** Medline

**24. Combined Ahmed valve and phacoemulsification with intraocular lens implantation under infliximab in refractory uveitic glaucoma.**

**Author(s):** Parihar, Jitendra K S; Kaushik, Jaya; Jain, Vaibhav K; Trehan, Hemant S; Mishra, Avinash; Baranwal, Vinod K  
**Source:** European journal of ophthalmology; May 2018; vol. 28 (no. 3); p. 294-298  
**Publication Date:** May 2018  
**Publication Type(s):** Journal Article  
**PubMedID:** 28967081  
**Available at** European Journal of Ophthalmology - from EBSCO (MEDLINE Complete)  
**Abstract:** PURPOSETo evaluate the outcome of combined Ahmed glaucoma valve (AGV) and phacoemulsification with posterior chamber intraocular lens implantation under infliximab in refractory uveitic glaucoma (UG). METHODSIn this prospective interventional case series, 26 eyes of 26 patients with refractory UG underwent surgery under intravenous infliximab. The success rate was defined as intraocular pressure (IOP) 5 to 21 mm Hg with or without antiglaucoma medications (AGM), without additional glaucoma surgical intervention. RESULTS The mean IOP (37.8 ± 11.86 to 12.2 ± 2.8 mm Hg; p<0.0001) and mean number of AGM (3.4 ± 1.2 to 0.4 ± 0.1; p<0.001) were significantly reduced after surgery at 2 years. Kaplan-Meier survival analysis showed a cumulative probability of success for IOP control of 92% at 2 years of follow-up. CONCLUSIONS Combined AGV and phacoemulsification is an effective treatment for controlling refractory UG with complicated cataract under infliximab.  
**Database:** Medline

**25. Cyclodestructive procedures for non-refractory glaucoma.**

**Author(s):** Michelessi, Manuele; Bicket, Amanda K; Lindsley, Kristina  
**Source:** The Cochrane database of systematic reviews; Apr 2018; vol. 4 ; p. CD009313  
**Publication Date:** Apr 2018
Abstract: BACKGROUND Glaucoma is a leading cause of blindness worldwide. It results in a progressive loss of peripheral vision and, in late stages, loss of central vision leading to blindness. Early treatment of glaucoma aims to prevent or delay vision loss. Elevated intraocular pressure (IOP) is the main causal modifiable risk factor for glaucoma. Aqueous outflow obstruction is the main cause of IOP elevation, which can be mitigated either by increasing outflow or reducing aqueous humor production. Cyclodestructive procedures use various methods to target and destroy the ciliary body epithelium, the site of aqueous humor production, thereby lowering IOP. The most common approach is laser cyclophotocoagulation. OBJECTIVES To assess the effectiveness and safety of cyclodestructive procedures for the management of non-refractory glaucoma (i.e. glaucoma in an eye that has not undergone incisional glaucoma surgery). We also aimed to compare the effect of different routes of administration, laser delivery instruments, and parameters of cyclophotocoagulation with respect to IOP control, visual acuity, pain control, and adverse events. SEARCH METHODS We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (which contains the Cochrane Eyes and Vision Trials Register) (2017, Issue 8); Ovid MEDLINE; Embase.com; LILACS; the metaRegister of Controlled Trials (mRCT) and ClinicalTrials.gov. The date of the search was 7 August 2017. We also searched the reference lists of reports from included studies. SELECTION CRITERIA We included randomized controlled trials of participants who had undergone cyclodestruction as a primary treatment for glaucoma. We included only head-to-head trials that had compared cyclophotocoagulation to other procedural interventions, or compared cyclophotocoagulation using different types of lasers, delivery methods, parameters, or a combination of these factors. DATA COLLECTION AND ANALYSIS Two review authors independently screened search results, assessed risks of bias, extracted data, and graded the certainty of the evidence in accordance with Cochrane standards. MAIN RESULTS We included one trial (92 eyes of 92 participants) that evaluated the efficacy of diode transscleral cyclophotocoagulation (TSCPC) as primary surgical therapy. We identified no other eligible ongoing or completed trial. The included trial compared low-energy versus high-energy TSCPC in eyes with primary open-angle glaucoma. The trial was conducted in Ghana and had a mean follow-up period of 13.2 months post-treatment. In this trial, low-energy TSCPC was defined as 45.0 J delivered, high-energy as 65.5 J delivered; it is worth noting that other trials have defined high- and low-energy TSCPC differently. We assessed this trial to have had low risk of selection bias and reporting bias, unclear risk of performance bias, and high risk of detection bias and attrition bias. Trial authors excluded 13 participants with missing follow-up data; the analyses therefore included 40 (85%) of 47 participants in the low-energy group and 39 (87%) of 45 participants in the high-energy group. Control of IOP, defined as a decrease in IOP by 20% from baseline value, was achieved in 47% of eyes, at similar rates in the low-energy group and the high-energy groups; the small study size creates uncertainty about the significance of the difference, if any, between energy settings (risk ratio (RR) 1.03, 95% confidence interval (CI) 0.64 to 1.65; 79 participants; low-certainty evidence). The difference in effect between energy settings based on mean decrease in IOP, if any exists, was also uncertain (mean difference (MD) -0.50 mmHg, 95% CI -5.79 to 4.79; 79 participants; low-certainty evidence). Decreased vision was defined as the proportion of participants with a decrease of 2 or more lines on the Snellen chart or one or more categories of visual acuity when unable to read the eye chart. Twenty-three percent of eyes had a decrease in vision. The size of any difference between the low-energy group and the high-energy group was uncertain (RR 1.22, 95% CI 0.54 to 2.76; 79 participants;
low-certainty evidence). Data were not available for mean visual acuity and proportion of participants with vision change defined as greater than 1 line on the Snellen chart. The difference in the mean number of glaucoma medications used after cyclophotocoagulation was similar when comparing treatment groups (MD 0.10, 95% CI -0.43 to 0.63; 79 participants; moderate-certainty evidence). Twenty percent of eyes were retreated; the estimated effect of energy settings on the need for retreatment was inconclusive (RR 0.76, 95% CI 0.31 to 1.84; 79 participants; low-certainty evidence). No data for visual field, cost effectiveness, or quality-of-life outcomes were reported by the trial investigators. Adverse events were reported for the total study population, rather than by treatment group. The trial authors stated that most participants reported mild to moderate pain after the procedure, and many had transient conjunctival burns (percentages not reported). Severe iritis occurred in two eyes and hyphema occurred in three eyes. No instances of hypotony or phthisis bulbi were reported. The only adverse outcome that was reported by the treatment group was atonic pupil (RR 0.89 in the low-energy group, 95% CI 0.47 to 1.68; 92 participants; low-certainty evidence).

AUTHORS' CONCLUSIONS There is insufficient evidence to evaluate the relative effectiveness and safety of cyclodestructive procedures for the primary procedural management of non-refractory glaucoma. Results from the one included trial did not compare cyclophotocoagulation to other procedural interventions and yielded uncertainty about any difference in outcomes when comparing low-energy versus high-energy diode TSCPC. Overall, the effect of laser treatment on IOP control was modest and the number of eyes experiencing vision loss was limited. More research is needed specific to the management of non-refractory glaucoma.

Database: Medline


Author(s): Dong, Zixian; Gong, Jianyang; Liao, Rongfeng; Xu, Shaojun

Source: Medicine; Apr 2018; vol. 97 (no. 14); p. e9897

Publication Date: Apr 2018

Publication Type(s): Meta-analysis Journal Article

PubMedID: 29620670

Available at Medicine - from Europe PubMed Central - Open Access

Available at Medicine - from IngentaConnect - Open Access

Available at Medicine - from PubMed Central

Abstract: PURPOSE Neovascular glaucoma (NVG) is a severe secondary glaucoma with uncontrolled intraocular pressure that leads to serious eye pain and vision loss. Presently, the therapeutic strategies for NVG are diverse, but the therapeutic effects are still not ideal. We performed a network analysis to assess the effect of multiple therapeutic strategies on the treatment of NVG patients. METHODS We searched public electronic databases through April 2017 using the following keywords "neovascular glaucoma," "iris neovascularization," "hemorrhagic glaucoma," and "random" without language restrictions. The outcome considered in the present analysis was treatment success rate. A network meta-analysis and multilevel mixed-effects logistic regression were used to compare regimens. RESULTS We included 27 articles assessing a total of 1884 NVG patients in our analysis. According to the network analysis, interferon and mitomycin plus trabeculectomy (94.9%), glaucoma valve implantation (86.9%), and iris photocoagulation plus trabeculectomy (81.9%) were the most likely to improve...
treatment success rate in NVG patients. The multilevel logistic regression analysis showed that glaucoma valve, bevacizumab, interferon, cyclophotocoagulation, trabeculectomy, iris photocoagulation, ranibizumab, and mitomycin had advantages in terms of improving treatment success rate in NVG patients. However, the application of retinal photocoagulation and vitrectomy reduced patient treatment success rate.

CONCLUSION
The regimen including mitomycin, interferon, and trabeculectomy was the most likely to improve the treatment success rate in NVG patients. The application of glaucoma valve and bevacizumab were more beneficial for improving patient treatment success rate as a surgery and as an agent, respectively.

Database: Medline

27. Drop instillation and glaucoma.

Author(s): Davis, Scott A; Sleath, Betsy; Carpenter, Delesha M; Blalock, Susan J; Muir, Kelly W; Budenz, Donald L

Source: Current opinion in ophthalmology; Mar 2018; vol. 29 (no. 2); p. 171-177

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29140818

Abstract: PURPOSE OF REVIEW To describe the current state of knowledge regarding glaucoma patients' eye drop technique, interventions attempting to improve eye drop technique, and methods for assessing eye drop technique. RECENT FINDINGS In observational studies, between 18.2 and 80% of patients contaminate their eye drop bottle by touching their eye or face, 11.3-60.6% do not instill exactly one drop, and 6.8-37.3% miss the eye with the drop. Factors significantly associated with poorer technique include older age, lack of instruction on eye drop technique, female sex, arthritis, more severe visual field defect, lack of positive reinforcement to take eye drops, lower educational level, low self-efficacy, and being seen at a clinic rather than a private practice. Among intervention studies, four of five studies using a mechanical device and three of four studies using educational interventions to improve technique showed positive results, but none of the studies were randomized controlled trials. SUMMARY Poor eye drop technique is a significant impediment to achieving good control of intraocular pressure in glaucoma. Both mechanical device interventions and educational interventions offer promise to improve patients' technique, but studies with stronger designs need to be done followed by introduction into clinical practice.

Database: Medline


Author(s): Napier, Maria L; Azuara-Blanco, Augusto

Source: Current opinion in ophthalmology; Mar 2018; vol. 29 (no. 2); p. 130-134

Publication Date: Mar 2018

Publication Type(s): Journal Article Review

PubMedID: 29194069
Abstract: PURPOSE OF REVIEW Angle closure glaucoma is a leading cause of blindness globally and trends of how best to treat this disease are evolving. The advent of anterior segment imaging aids our understanding of pathogenesis and allows more robust and objective measurement of treatment modalities. We will also review recent literature regarding the role of laser and surgical interventions for the treatment of primary angle closure disease. RECENT FINDINGS Recent studies evaluating the efficacy of laser peripheral iridotomy (LPI) in primary angle closure suspects (PACs) show that while it is a safe intervention and initially anterior chamber angle widens following the laser treatment, the effect is lost with time. Only a small minority of PACs patients develop primary angle closure (PAC) or primary angle closure glaucoma (PACG). Trials evaluating argon laser peripheral iridoplasty (ALPI) have failed to show a substantial clinical benefit. In patients with early or moderate PACG and those with PAC with IOP over 30 mmHg, clear lens extraction is associated with better clinical and quality of life outcomes than LPI. SUMMARY Recent evidence supports initial clear lens extraction in the context of PACG or primary angle closure with IOP more than 30 mmHg.

Database: Medline

29. Ginkgo biloba and its potential role in glaucoma.

Author(s): Kang, Jessica Minjy; Lin, Shan
Source: Current opinion in ophthalmology; Mar 2018; vol. 29 (no. 2); p. 116-120
Publication Date: Mar 2018
Publication Type(s): Journal Article Review
PubMedID: 29206653

Abstract: PURPOSE OF REVIEW This study will review the research on the effect of ginkgo biloba extract (GBE) on patients with glaucoma. RECENT FINDINGS GBE appears to increase ocular blood flow in those with glaucoma. However, data on visual field outcomes are inconclusive. SUMMARY GBE has been shown to have antioxidant and vascular effects, making it potentially effective in treating glaucoma. Published data are limited but show an increase in ocular blood flow after GBE administration. Conclusive evidence is lacking regarding the effect of GBE on clinical outcomes in glaucoma patients such as visual field performance.

Database: Medline

30. Long-term results of deep sclerectomy in normal-tension glaucoma.

Author(s): Harju, Mika; Suominen, Sakari; Allinen, Pasi; Vesti, Eija
Source: Acta ophthalmologica; Mar 2018; vol. 96 (no. 2); p. 154-160
Publication Date: Mar 2018
Publication Type(s): Comparative Study Randomized Controlled Trial Journal Article
PubMedID: 28834385

Available at Acta Ophthalmologica - from Wiley Online Library Medicine and Nursing Collection 2018 - NHS
Available at Acta Ophthalmologica - from Wiley Online Library All Journals
Abstract: PURPOSE To study the long-term outcome of deep sclerectomy with and without mitomycin-C (MMC) in patients with normal-tension glaucoma (NTG). METHODS We prospectively analysed consecutive patients randomized to surgery performed either with (MMC group) or without (non-MMC) MMC. Surgery was considered totally successful if, after surgery, the preoperative intraocular pressure (IOP) level was reduced by 25% without medication, and a qualified success if medication was required to achieve the same limits. RESULTS A total of 37 patients were enrolled, 15 in the MMC and 22 in the non-MMC group. The median (range) follow-up was 7.9 (1.0-9.0) years, with a drop-out of three (8%) patients. The preoperative IOP was 15 (11-21) mmHg in the MMC and 15 (10-19) mmHg in the non-MMC group. At the last 6- to 9-year follow-up, IOP was significantly reduced to 9 (2-13) mmHg (p = 0.002) and 10 (5-13) mmHg (p < 0.001). The overall (groups combined) complete and qualified success rates were 50% and 71%, with no significant difference between groups (p = 0.48 and p = 0.25). Gonipuncture was performed in 87% and 100% of eyes in the MMC and non-MMC groups (p = 0.14). Needling with MMC injection was performed 0 (0-1) times in the MMC group and 0.5 (0-4) times in the non-MMC group (p = 0.056). We encountered no cases of hyphema, shallow anterior chamber, hypotony maculopathy, choroidal effusion, late bleb leakage, blebitis, endophthalmitis or malignant glaucoma. CONCLUSION In NTG, long-term significant IOP reduction can be achieved with deep sclerectomy with a low incidence of sight-threatening complications.

Database: Medline

31. Comparison of graft survival following penetrating keratoplasty and Descemet's stripping endothelial keratoplasty in eyes with a glaucoma drainage device.

Author(s): Iverson, Shawn M; Spierer, Oriel; Papachristou, George C; Feuer, William J; Shi, Wei; Greenfield, David S; O’Brien, Terrence P

Source: International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 223-231

Publication Date: Feb 2018

Publication Type(s): Comparative Study Journal Article

PubMedID: 28303370

Available at International Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at International Ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: PURPOSE To compare corneal graft survival rates after penetrating keratoplasty (PK) and Descemet's stripping endothelial keratoplasty (DSEK) in patients with a glaucoma drainage device (GDD) or medically managed glaucoma. METHODS A retrospective chart review was conducted on consecutive patients who underwent primary PK or primary DSEK. Inclusion criteria consisted of eyes with a diagnosis of glaucoma prior to corneal transplantation and a minimum of 6 months of follow-up. Graft failure was defined as an edematous cornea with failure to maintain deturgescence lasting beyond a period of 1 month of intense steroid therapy or vascularization and scarring resulting in irreversible loss of central graft clarity. Corneal graft survival was calculated using Kaplan-Meier survival analysis. Patients were divided into four groups: GDD-PK, GDD-DSEK, medical-PK and medical-DSEK. RESULTS Fifty-six eyes of 56 patients were identified as meeting inclusion criteria. Among eyes with a GDD, there was no difference in the proportion of failures between PK grafts (48%) and DSEK grafts (50%) (p = 0.90). Failure occurred earlier in DSEK recipients compared to PK recipients, 5.82 ± 6.77 months versus
14.40 ± 7.70 months, respectively (p = 0.04). A Kaplan-Meier analysis did not identify a difference between the four groups with respect to graft failure (p = 0.52). CONCLUSION There is no significant difference in graft survival rates between medically and surgically treated glaucoma patients for either PK or DSEK grafts. In patients with GDD, graft failure occurs earlier in DSEK compared to PK.

**Database:** Medline

32. Glaucoma and intraocular pressure in EPIC-Norfolk Eye Study: cross sectional study

**Author(s):** Chan, Michelle P Y; Broadway, David C; Khawaja, Anthony P; Yip, Jennifer L Y; Garway-Heath, David F; Burr, Jennifer M; Luben, Robert; Hayat, Shabina; Dalzell, Nichola; Khaw, Kay-Tee; Foster, Paul J

**Source:** BMJ : British Medical Journal (Online); Sep 2017; vol. 358 ; p. n

**Publication Date:** Sep 2017

**Publication Type(s):** Journal Article

**Abstract:** Objectives To report the distribution of intraocular pressure (IOP) by age and sex and the prevalence of glaucoma. Design Community based cross sectional observational study. Setting EPIC-Norfolk cohort in Norwich and the surrounding rural and urban areas. Participants 8623 participants aged 48-92 recruited from the community who underwent ocular examination to identify glaucoma. Main outcome measures Prevalence and characteristics of glaucoma, distribution of IOP, and the sensitivity and specificity of IOP for case finding for glaucoma. Results The mean IOP in 8401 participants was 16.3 mm Hg (95% confidence interval 16.2 mm Hg to 16.3 mm Hg; SD 3.6 mm Hg). In 363 participants (4%), glaucoma was present in either eye; 314 (87%) had primary open angle glaucoma. In the remaining participants, glaucoma was suspected in 607 (7%), and 863 (10.0%) had ocular hypertension. Two thirds (242) of those with glaucoma had previously already received the diagnosis. In 76% of patients with newly diagnosed primary open angle glaucoma (83/107), the mean IOP was under the threshold for ocular hypertension (21 mm Hg). No one IOP threshold provided adequately high sensitivity and specificity for diagnosis of glaucoma. Conclusions In this British community, cases of glaucoma, suspected glaucoma, and ocular hypertension represent a large number of potential referrals to the hospital eye service. The use of IOP for detection of those with glaucoma is inaccurate and probably not viable.

**Database:** BNI

33. Glaucoma

**Author(s):** Chaker Ben Salem; Fathallah, Neila; Zayani, Hanen

**Source:** The Lancet; Feb 2018; vol. 391 (no. 10122); p. 739

**Publication Date:** Feb 2018

**Publication Type(s):** Correspondence

Available at The Lancet - from ProQuest (Hospital Premium Collection) - NHS Version

34. Glaucoma - Authors' reply

Author(s): Jonas, Jost B; Aung, Tin; Bourne, Rupert R; Bron, Alain M; Ritch, Robert; Panda-Jonas, Songhomitra

Source: The Lancet; Feb 2018; vol. 391 (no. 10122); p. 740

Publication Date: Feb 2018

Publication Type(s): Correspondence

Available in The Lancet - from ProQuest (Hospital Premium Collection) - NHS Version


Database: BNI

35. Screening for glaucoma using intraocular pressure alone

Author(s): Jampel, Henry D

Source: BMJ : British Medical Journal (Online); Sep 2017; vol. 358 ; p. n

Publication Date: Sep 2017
Cataracts

36. Corneal transplantation

**Author(s):** Anonymous

**Source:** AORN Journal; Feb 2018; vol. 107 (no. 2); p. P11

**Publication Date:** Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**

INDICATIONS FOR PROCEDURE During corneal transplantation (keratoplasty), corneal tissue from a donor eye is grafted to the patient's eye. It is performed in patients with a thickened or opacified cornea from disease or degeneration to improve vision, alleviate pain, or treat a condition not amendable to other medical treatment. For this procedure, the patient’s retina and optic nerve must be functioning correctly. Common indications include bullous keratopathy, keratoconus, repeat graft, keratitis, and corneal stromal dystrophies.

PREPARING FOR PROCEDURE

- Local anesthesia (e.g., retrobulbar or peribulbar block) with IV sedation or general anesthesia is used.
- Mannitol is commonly used to lower intraocular pressure.
- The perioperative RN uses an antiseptic solution approved for ophthalmic use to prep the patient’s eyelid margins, eyelashes, eyelid, brow, and cheek. Following the manufacturer’s instructions for use, the RN may instill the solution into the eye and irrigate the eye with sterile normal saline.

PATIENT POSITIONING

- The patient's head is placed in the ophthalmology stretcher headrest and may be supported with additional padding as needed.
- Arms are secured at the patient’s side, with the palms facing in and the wrists neutral.

BASIC WORKFLOW FOR PROCEDURE

To perform a standard full-thickness corneal transplantation, called a penetrating keratoplasty, the surgeon will:

1. Insert an eyelid speculum;
2. Place a sclera fixation ring or sutures to aid in supporting the patient’s eye structure (if the ring is used, it will need to be secured with sutures);
3. Place the donor corneoscleral button on a polytetrafluoroethylene (i.e., Teflon) block with the epithelial surface facing down;
4. Press out the donor button with a corneal trephine;
5. Place a trephine on the patient’s cornea, approximately three-quarters through the stroma;
6. Excise a button that is .25 millimeters smaller than the donor button;
7. Perform peripheral iridectomy or iridotomy, depending on the surgeon’s preference;
8. If the patient’s lens is opaque, extract the cataract and implant the intraocular lens;
9. Using a microscope to see the surgical field, place the graft and secure it with nonabsorbable sutures;
10. Inject air or sodium hyaluronate into the anterior chamber of the patient’s eye, if needed, to prevent the iris from sticking to the suture line;
11. Inject antibiotics or apply antibiotic drops, if needed;
12. Apply antibiotic ointment; and
13. Place an eye pad and shield.

ALTERNATIVE APPROACHES

Other options for corneal transplantation include:

- Anterior lamellar keratoplasty,
- Endothelial keratoplasty (e.g., Descemet stripping endothelial
keratoplasty, Descemet membrane endothelial keratoplasty), and 4,5 * keratoprosthesis.6 To perform an anterior lamellar keratoplasty, which replaces the stroma but leaves the Descemet membrane and endothelium,6 the surgeon will 1. insert an eyelid speculum; 2. make a groove of the desired depth in the donor cornea and dissect it with a blade; 3. trephine the patient's cornea to the desired depth; 4. perform a lamellar resection; 5. secure the donor cornea with nonabsorbable sutures; 6. use mydriatic agents and antibiotics as needed; and 7. place an eye patch. 1 To perform Descemet stripping endothelial keratoplasty, which replaces the Descemet membrane and endothelium,6 the surgeon will 1. insert an eyelid speculum; 2. mark the size of the graft on the epithelium using a trephine; 3. make paracentesis incisions; 4. inject a viscoelastic agent; 5. make a temporal corneal incision; 6. score and strip the Descemet membrane; 7. make full-thickness vent incisions, if needed; 8. remove the viscoelastic agent via aspiration; 9. place a maintainer in the anterior chamber; 10. cut the donor corneal button to the appropriate size using a microkeratome; 11. insert the endothelial graft into the anterior chamber; 12. unfold and position the graft with the endothelial surface down; 13. when the graft is appropriately positioned, inject an air bubble under the graft with a cannula; 14. release the air bubble after 30 minutes to one hour, either in the OR or at a slit lamp; 15. apply antibiotic and hydriatic drops on the eye; and 16. place an eye patch.1 POSSIBLE COMPLICATIONS * Complications associated with corneal transplantation include o rejection or failure of the donor graft, o glaucoma, o microbial keratitis, o infection, o bleeding, o detached retina, o cataracts, o corneal swelling, o wound leaking, and o high refractive error (e.g., astigmatism).2'7-9 * Prognosis depends on the initial condition being treated. [...] there is a greater than 90 percent chance of long-term success of the procedure in patients treated for corneal scars or hereditary corneal stromal dystrophy, but only up to a 50 percent chance of long-term success in patients treated for chemical and radiation injuries.2 * Symptoms that could indicate rejection of the graft include worsening vision, photosensitivity, and aching or redness of the eye.2 POSTOPERATIVE RECOVERY COURSE * Topical antibiotics will be needed for a few weeks and topical corticosteroids will be needed for a few months.2 * The patient should wear shields or eye glasses to protect from trauma and should not rub or press on the eye.2'9 * The patient's vision typically improves immediately, but optimal recovery can take up to 18 months.2-4'9 Editor's note:

Database: BNI

37. Epidemiology of Persistent Dry Eye-Like Symptoms After Cataract Surgery.

Author(s): Iglesias, Eugenia; Sajnani, Ravin; Levitt, Roy C; Sarantopoulos, Constantine D; Galor, Anat

Source: Cornea; Jul 2018; vol. 37 (no. 7); p. 893-898

Publication Date: Jul 2018

Publication Type(s): Journal Article

PubMedID: 29504953

Abstract: PURPOSETo evaluate the frequency and risk factors for persistent postsurgical pain (PPP) after cataract surgery, defined as mild or greater dry eye (DE)-like symptoms 6 months after surgery. METHODSThis single-center study included 86 individuals who underwent cataract surgery between June and October 2016 and had DE symptom information available 6 months after surgery. Patients were divided into 2 groups: controls were defined as those without DE symptoms 6 months after surgery (defined by a Dry Eye Questionnaire 5 (DEQS) score <6), cases
were defined as those with mild or greater DE-like symptoms 6 months after surgery (DEQ5 ≥6).

**RESULTS**

Mean age of the study population was 71 ± 8.6 years; 95% (n = 82) were men. DE-like symptoms were reported in 32% (n = 27) of individuals 6 months after cataract surgery; 10% (n = 8) reported severe symptoms (DEQ5 ≥12). Patients with DE-like symptoms after cataract extraction also had higher ocular pain scores and specific ocular complaints (ocular burning, sensitivity to wind and light) compared with controls with no symptoms. A diagnosis of nonocular pain increased the risk of DE-like symptoms after cataract surgery (odds ratio 4.4, 95% confidence interval 1.58-12.1, P = 0.005).

**CONCLUSIONS**

Mild or greater PPP occurred in approximately 1/3 of individuals after cataract surgery. Prevalence of severe PPP is in line with that of refractive surgery, dental implants, and genitourinary procedures.

**Database:** Medline

38. **Antibiotic prophylaxis in cataract surgery: Understanding the trends of the day.**

**Author(s):** Biswas, Partha; Batra, Sneha

**Source:** Indian journal of ophthalmology; Jun 2018; vol. 66 (no. 6); p. 825-826

**Publication Date:** Jun 2018

**Publication Type(s):** Journal Article Comment

**PubMedID:** 29785992

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

Available at Indian Journal of Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at Indian Journal of Ophthalmology - from EBSCO (MEDLINE Complete)

Available at Indian Journal of Ophthalmology - from ijo.in

**Database:** Medline

39. **Comment on: Antibiotic prophylaxis in cataract surgery - An evidence-based approach.**

**Author(s):** Galvis, Virgilio; Tello, Alejandro; Camacho, Paul A; Rey, Juan J

**Source:** Indian journal of ophthalmology; Apr 2018; vol. 66 (no. 4); p. 603

**Publication Date:** Apr 2018

**Publication Type(s):** Letter Comment

**PubMedID:** 29582837

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

Available at Indian Journal of Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at Indian Journal of Ophthalmology - from EBSCO (MEDLINE Complete)

Available at Indian Journal of Ophthalmology - from PubMed Central

**Database:** Medline

**Author(s):** Mongan, A M; Kerins, F; McKenna, B; Quinn, S M; Mullaney, P

**Source:** Irish journal of medical science; May 2018; vol. 187 (no. 2); p. 529-535

**Publication Date:** May 2018

**Publication Type(s):** Journal Article

**PubMedID:** 29063356

**Abstract:**

**BACKGROUND** This study evaluates a community optometrist-delivered postoperative care scheme in patients discharged from the hospital ophthalmology department following uncomplicated cataract surgery.

**AIM** The aim of this study is to assess the efficacy of electronic patient records (EPR) in facilitating co-managed cataract care.

**METHODS** We performed a retrospective analysis of a prospectively maintained Medisoft EPR database of postoperative cataract review data at a single centre, Sligo University Hospital (SUH), which serves a large and predominantly rural catchment area. All patients undergoing cataract surgery at SUH from October 2012 to September 2013 were included in this study. A total of 39 optometric practices, all with access to the Medisoft EPR software, participated in this pilot co-management scheme.

**RESULTS** One thousand four hundred and twenty-two cataract surgeries were performed in SUH (55% female, 45% male); 1011 patients (71%) were discharged to the community on the day of cataract surgery. Complete postoperative feedback (i.e. data on refraction, visual acuity and intraocular pressure) was available in 97% of these patients compared to 50% of patients reviewed in the hospital. Patients followed up by optometrists were twice as likely to have complete postoperative clinical details (RR = 1.934, 95% CI: 1.759-2.126, p < 0.0001). Overall, 65% of operations were performed on first eyes. Hospital doctors were more likely to document requirement for second eye surgery compared to community optometrists (RR = 1.434, 95% CI: 1.302-1.580, p < 0.0001).

**CONCLUSIONS** Optometrists provided an excellent postoperative care service with superior postoperative feedback rates compared to hospital doctors. EPRs facilitate a postoperative shared-care pathway that is of high quality and efficiency with major economic advantages.

**Database:** Medline

41. Tripolymeric Corneal Coating Gel Versus Balanced Salt Solution Irrigation During Cataract Surgery: A Retrospective Analysis.

**Author(s):** Giardini, Pietro; Hauranieh, Nicola; Gatto, Claudio; D’Amato Tóthová, Jana

**Source:** Cornea; Apr 2018; vol. 37 (no. 4); p. 431-435

**Publication Date:** Apr 2018

**Publication Type(s):** Journal Article

**PubMedID:** 29300265

**Abstract:**

**PURPOSE** To compare the protective properties and ease of manipulation during cataract surgery of corneal coating with a gel (eyeDRO; AL.CHI.MI.A. S.R.L, Italy) and corneal irrigation with balanced salt solution (BSS).

**METHODS** We analyzed the data of 51 patients receiving either eyeDRO or BSS during routine cataract surgery performed within a 20-day period in 2016. The selected parameters were intraoperative clarity and ease of manipulation; postoperative epithelial integrity; and patient discomfort.

**RESULTS** Compared with BSS irrigation,
eyeDRO coating significantly increased intraoperative clarity and ease of manipulation \((P < 0.01)\). Single application was required in eyeDRO-treated eyes, whereas BSS was applied \(5.3 \pm 0.4\) times on average \((P < 0.01)\). Two hours postoperatively, a normal epithelium was observed in 90.0% and 60.0% of eyeDRO-coated and BSS-irrigated eyes, respectively; punctate epithelial damage was observed in 9.7% and 40.0% \((P < 0.05)\) of eyeDRO-coated and BSS-irrigated eyes, respectively; eye irritation and foreign body sensation were experienced by 13.0% and 37.0% of eyeDRO-treated patients and by 65.0% and 100% of BSS-treated patients, respectively \((P < 0.01)\). Twenty-four hours postoperatively, 80.0% of BSS-treated patients versus 19.0% of eyeDRO-treated patients still experienced foreign body sensation \((P < 0.01)\).

**CONCLUSION**

EyeDRO coating was shown to be a safer and more effective option than BSS irrigation in cataract surgery because single application provided optimal hydration and intraoperative clarity during the entire surgery, better preserved the corneal epithelium, and offered postoperative comfort to the patient.

**Database:** Medline

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**42. Femtosecond laser-assisted cataract surgery in a public teaching hospital setting.**

**Author(s):** Vasquez-Perez, Alfonso; Simpson, Andrew; Nanavaty, Mayank A

**Source:** BMC Ophthalmology; Feb 2018; vol. 18 (no. 1); p. 26

**Publication Date:** Feb 2018

**Publication Type(s):** Comparative Study Journal Article

**PubMedID:** 29394929

Available at [BMC Ophthalmology](https://www.biomedcentral.com/1471-2415/18/26) - from BioMed Central

Available at [BMC Ophthalmology](https://www.bmcmedicine.com) - from Europe PubMed Central - Open Access

Available at [BMC Ophthalmology](https://www.biomedcentral.com/1471-2415/18/26) - from ProQuest (Hospital Premium Collection) - NHS Version

Available at [BMC Ophthalmology](https://www.biomedcentral.com/1471-2415/18/26) - from EBSCO (MEDLINE Complete)

Available at [BMC Ophthalmology](https://www.biomedcentral.com/1471-2415/18/26) - from PubMed Central

**Abstract:**

**BACKGROUND** To evaluate the efficiency and practicality of femtosecond laser assisted cataract surgery (FLACS) in a public teaching hospital setting using a mobile FLACS system compared to conventional phacoemulsification cataract surgery (CPCS).**METHODS** Ninety eyes from 90 patients underwent either FLACS or CPCS (45 in each group). Cataracts were graded using the Lens Opacities Classification System III system. Outcome measures included total surgery duration, femtosecond laser treatment time, vacuum time (VT), total phacoemulsification time (TPT) and total phacoemulsification power (TPP). **RESULTS** No differences were observed in the preoperative mean cataract grades and co-morbidities. FLACS took longer than CPCS with a mean difference of 5.2 ± 4.5 min (range: 0-18.8 min). The average femtosecond laser treatment time was 4.3 ± 3.4 min (range: 1-15.5 min). The VT was 2.51 ± 0.45 min (range: 1.59-4.10 min). Although not significant, TPT in FLACS showed a trend towards improvement (mean 1.0 ± 0.6 s; range: 0.1-2.4 s) compared to CPCS (mean 1.2 ± 0.6 min; range: 0.5-2.5 min). Whereas, TPP was significantly less in FLACS (mean 17.9 ± 5.0%; range: 5-27%) compared to CPCS (mean 20.3 ± 4.1%; range: 12.0-28.7% \((p = 0.031)\). **CONCLUSION** The mobile FLACS system housed in the same operating room increased the surgical duration by 5.2 min. The average VT was 2.51 min, which was lower in comparison to published experience using non-mobile FLACS systems.

**Database:** Medline
43. Reply to comment on: Femtosecond laser-assisted cataract surgery versus 2.2 mm clear corneal phacoemulsification.

Author(s): Ranjini, H; Murthy, Praveen R; Murthy, Gowri J; Murthy, Vinay R
Source: Indian journal of ophthalmology; Feb 2018; vol. 66 (no. 2); p. 344-345
Publication Date: Feb 2018
Publication Type(s): Letter Comment
PubMedID: 29380806
Available at Indian Journal of Ophthalmology - from Europe PubMed Central - Open Access
Available at Indian Journal of Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version
Available at Indian Journal of Ophthalmology - from EBSCO (MEDLINE Complete)
Available at Indian Journal of Ophthalmology - from PubMed Central
Database: Medline

44. Intraoperative and postoperative pain in cataract surgery.

Author(s): Assam, Jed H; Bernhisel, Ashlie; Lin, Amy
Source: Survey of ophthalmology; 2018; vol. 63 (no. 1); p. 75-85
Publication Date: 2018
Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review
PubMedID: 28739400
Abstract: Technologic improvements in cataract surgery have not only improved visual outcomes, but also have minimized intraoperative and postoperative pain. We review the mechanisms, risk factors, and management of intraoperative and postoperative pain. Summaries of less common sources of physiologic pain have been included to reinforce recognition of when pain represents an expected physiologic reaction to surgery as opposed to signaling a more serious complication. We also discuss various current and emerging anesthetic and analgesic modalities.
Database: Medline

45. Factors to be Considered when Performing Cataract Surgery in Patients Unable to Recline Flat.

Author(s): Rentka, Aniko; Kemeny-Beke, Adam
Source: Seminars in ophthalmology; 2018; vol. 33 (no. 4); p. 443-448
Publication Date: 2018
Publication Type(s): Journal Article Review
PubMedID: 28272966
Abstract: PURPOSE Although phacoemulsification is routinely performed with the patient in a supine position, certain locomotor deformities and other severe ailments can lead to the inability of the patient to recline flat. METHODS The present article surveys publications and summarizes our own experience regarding positioning techniques during cataract surgery on patients unable to adopt a supine position. RESULTS The successful and effective performance of cataract surgery by phacoemulsification depend on the comfortable positioning of both the patient and the surgeon. In order to achieve the highest possible success rate in phacoemulsification surgery, optimal positioning of the patient and the operating microscope are essential. There are other features of pivotal importance, including the construction of the operating table, the anesthesia technique, and the surgical approach. CONCLUSIONS Surgeons often have to rely on their own imagination and experience in finding optimal positioning in order to perform effective and successful phacoemulsification surgery.

Database: Medline

46. Risk Factors for Return to the Operating Room after Resident-Performed Cataract Surgery.

Author(s): Menda, Shivali A; Driver, Todd H; Neiman, Alexandra E; Blumberg, Seth; Naseri, Ayman; Stewart, Jay M

Source: Seminars in ophthalmology; 2018; vol. 33 (no. 2); p. 210-214

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 27686470

Available at Seminars in ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: OBJECTIVE Investigate risk factors for unplanned return to the operating room after resident-performed cataract surgery. DESIGN Retrospective case-control study. SETTING Institutional. METHODS Study population: All patients with reoperation within 90 days of resident-performed phacoemulsification were matched to four control eyes which had surgery within 30 days of the reoperation at the same institution. OBSERVATION PROCEDURE Billing codes were used to identify all patients who underwent resident-performed intended phacoemulsification with intraocular lens placement from January 2005 to December 2010. MAIN OUTCOME MEASURES Investigated risk factors for reoperation included cataract characteristics and preexisting ocular co-morbidities, including diabetic retinopathy, retinal detachment history, glaucoma, corneal pathology, and uveitis. Additional preoperative risk factors studied included resident training year, history of tamsulosin use, phacodonesis, pupillary dilation, presence of pseudoexfoliation, myopia, history of trauma, visual acuity, and monocular status. Intraoperative variables were the use of iris expansion devices, use of capsular stain, attending type, incision type, use of sutures, vitreous loss, anesthesia type, and phacoemulsification technique. RESULTS There were 67 returns to the operating room (i.e., cases) over five years that were assigned to 268 control eyes. In preoperative multivariate analysis, phacoemulsification done by a first- or second-year resident (OR 3.2, 95% CI: 1.7-6.0, p < 0.001) was associated with an increased risk of reoperation. In postoperative multivariate analysis, only the use of the divide-and-conquer technique (OR 4.0, 95% CI: 1.7-9.2, p = 0.001) was associated with an increased risk of reoperation. CONCLUSION Phacoemulsification done by a junior resident or using the divide-and-conquer technique had the highest risk of reoperation.

Database: Medline
### 47. Cataract Surgery is Associated with Lower Mortality in Older Women

**Author(s):** Rosenberg, Karen  
**Source:** The American Journal of Nursing; Feb 2018; vol. 118 (no. 2); p. 70  
**Publication Date:** Feb 2018  
**Publication Type(s):** News  
**Abstract:** A study conducted by Tseng VL et al assessing the association between cataract surgery and lower mortality risk in older women. Using data from the Women's Health Initiative, a study of U.S. postmenopausal women ages 50 to 79 begun in 1993 and made up of four overlapping, randomized clinical trials researchers evaluated the association between cataract surgery and total and cause-specific mortality in a large cohort of women age 65 or older who had cataracts. Lower mortality rates in the group of women who had cataract surgery, however, don't prove a causal relationship between cataract surgery and reduced mortality, according to the researchers.  
**Database:** BNI

### 48. Cataracts

**Author(s):** Yu-Chi, Liu; Wilkins, Mark; Kim, Terry; Malyugin, Boris; Mehta, Jodhbir S  
**Source:** The Lancet; Aug 2017; vol. 390 (no. 10094); p. 600  
**Publication Date:** Aug 2017  
**Publication Type(s):** Journal Article  
**Available at:** The Lancet - from ProQuest (Hospital Premium Collection) - NHS Version  
**Abstract:** An estimated 95 million people worldwide are affected by cataract. Cataract still remains the leading cause of blindness in middle-income and low-income countries. With the advancement of surgical technology and techniques, cataract surgery has evolved to small-incisional surgery with rapid visual recovery, good visual outcomes, and minimal complications in most patients. With the development of advanced technology in intraocular lenses, the combined treatment of cataract and astigmatism or presbyopia, or both, is possible. Paediatric cataracts have a different pathogenesis, surgical concerns, and postoperative clinical course from those of age-related cataracts, and the visual outcome is multifactorial and dependent on postoperative visual rehabilitation. New developments in cataract surgery will continue to improve the visual, anatomical, and patient-reported outcomes. Future work should focus on promoting the accessibility and quality of cataract surgery in developing countries.  
**Database:** BNI

### General

### 49. A retrospective study of acetylcholine receptor antibody positive ocular myasthenia in the West of Scotland.

**Author(s):** Farrugia, Maria E; Cleary, Marie; Carmichael, Caroline
Ocular myasthenia is the milder end of the myasthenia gravis spectrum but treatment can be challenging especially in older patients. We retrospectively studied all patients on our database with ocular myasthenia (OMG), positive for acetylcholine receptor (AChR) antibodies. We identified 93 patients (64 men and 29 women). The mean age at disease onset was 63y, median 68y. Most (72%) experienced ptosis with diplopia; 19% experienced ptosis alone, while 7.5% complained of diplopia without ptosis. As expected, pyridostigmine was commenced early at diagnosis in the majority (69%) and 20% were still receiving pyridostigmine at final review. Immunosuppression was prescribed in 50%. Seven patients had ptosis repair surgery; 20 patients used prisms at some stage. >75% had several comorbidities. Our OMG cohort is an older population with several comorbidities. Final outcomes in those who received immunosuppression were similar to those who had not.

Database: Medline

50. A longitudinal study to assess the frequency and cost of antivascular endothelial therapy, and inequalities in access, in England between 2005 and 2015.

Author(s): Hollingworth, William; Jones, Tim; Reeves, Barnaby C; Peto, Tunde

Source: BMJ open; Oct 2017; vol. 7 (no. 10); p. e018289

Abstract:OBJECTIVESHigh-cost antivascular endothelial growth factor (anti-VEGF) medicines for eye disorders challenge ophthalmologists and policymakers to provide fair access for patients while minimising costs. We describe the growth in the use and costs of these medicines and measure inequalities in access.DESIGNLongitudinal study using Hospital Episode Statistics (2005/2006 to 2014/2015) and hospital prescribing cost reports (2008/2009 to 2015/2016). We used Poisson regression to estimate standardised rates and explore temporal and geographical variations.SETTINGNational Health Service (NHS) care in England.POPULATIONPatients receiving anti-VEGF injections for age-related macular degeneration, diabetic macular oedema and other eye disorders.INTERVENTIONSHigher-cost drugs (ranibizumab or aflibercept) recommended by the National Institute for Health and Care Excellence or lower-cost drug (bevacizumab) not licensed for eye disorders.MAIN OUTCOME MEASURESNational procedure rates and variation between and within clinical commissioning groups (CCGs). Cost of ranibizumab and aflibercept prescribing.RESULTSInjection procedures increased by 215% between 2010/2011 and 2014/2015. In 2014/2015 there were 388 031 procedures (714 per 100 000). There is no evidence that the dramatic growth in rates is slowing down. Since 2010/2011 the estimated cost...
of ranibizumab and aflibercept increased by 247% to £447 million in 2015/2016, equivalent to the entire annual budget of a CCG. There are large inequalities in access; in 2014/2015 procedure rates in a 'high use' CCG were 9.08 times higher than in a 'low use' CCG. In the South-West of England there was twofold variation in injections per patient per year (range 2.9 to 5.9).

CONCLUSIONS

The high and rising cost of anti-VEGF therapy affects the ability of the NHS to provide care for other patients. Current regulations encourage the increasing use of ranibizumab and aflibercept rather than bevacizumab, which evidence suggests is more cost-effective. NHS patients in England do not have equal access to the most cost-effective care.

Database: Medline


Author(s): Hoffman, Jeremy; Spencer, Fiona; Ezra, Daniel; Day, Alexander C

Source: BMJ open; Oct 2017; vol. 7 (no. 10); p. e018526

Publication Date: Oct 2017

Publication Type(s): Journal Article

PubMedID: 28988187

Available at BMJ Open - from BMJ Journals

Available at BMJ Open - from HighWire - Free Full Text

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

Available at BMJ Open - from PubMed Central

Abstract: OBJECTIVE To investigate changes in the patterns of cumulative surgical experience for ophthalmologists in the UK following the introduction of a new national training scheme. DESIGN Retrospective review of all surgical training records submitted to the UK Royal College of Ophthalmologists by trainees for the award of Certificate of Completion of Training (CCT) for the period 2009-2015. SETTING Secondary level care, UK. PARTICIPANTS 539 trainees achieving CCT over the 7-year study period. INTERVENTIONS Higher specialist training or ophthalmology specialist training. OUTCOME MEASURES Number of CCT awards by years and procedures performed for cataract surgery, strabismus, corneal grafts, vitreoretinal (VR) procedures, oculoplastics and glaucoma. RESULTS Cataract surgical experience showed little change with median number performed/performed supervised (P/PS) 592, IQR: 472-738; mean: 631. Similarly, the median number of strabismus (P/PS 34), corneal grafts (assisted, 9) and VR procedures (assisted, 34) appeared constant. There was a trend towards increasing surgical numbers for oculoplastics (median 116) and glaucoma (57). Overall case numbers for ophthalmic specialist training (OST) trainees (7-year training programme) were higher than higher surgical training (HST) trainees (4.5-year programme) with the exception of squint (P/PS), corneal grafts (P/PS) and VR cases (P/PS). CONCLUSIONS Overall case numbers reported at time of CCT application appear stable or with a marginal trend towards increasing case numbers. HST (4.5-year programme) case numbers do not include those performed before entry to HST, and although case numbers tended to be higher for OST trainees (7-year programme) compared with HST trainees, they were not proportionately so.

Database: Medline
52. Acupuncture for ophthalmoplegia: Protocol for a systematic review.

Author(s): Ji, Meiqi; Qin, Yali; Zi, Yingxin; Wang, Rui; Meng, Huan; Yang, Zongchun; Zhao, Qi; Jin, Ming

Source: Medicine; Jun 2018; vol. 97 (no. 24); p. e11065

Publication Date: Jun 2018

Publication Type(s): Meta-analysis Journal Article Review

PubMedID: 29901611

Available at Medicine - from Europe PubMed Central - Open Access
Available at Medicine - from IngentaConnect - Open Access
Available at Medicine - from PubMed Central

Abstract: BACKGROUND Ophthalmoplegia is a disease that affects many people every year and is caused by reasons, such as cavernous sinus lesion, intracranial aneurysm, diabetes, and trauma. Acupuncture has been widely used to treat ophthalmological diseases especially ophthalmoplegia in China. Many clinical trials indicate that acupuncture may promote the recovery of extraocular muscles in ophthalmoplegia patients. We aim to conduct a meta-analysis to evaluate the efficacy and safety of acupuncture for ophthalmoplegia.

METHODS We will retrieve the literature from the following electronic databases, by March 31, 2018, such as PubMed, EMBASE, the Cochrane Library, Web of Science database, Chinese BioMedical Literature Database, China National Knowledge Infrastructure, China Science and Technology Journal database, and Wanfang Database. We will also collect clinical trial registries, dissertations, grey literature, reference lists of studies, systematic reviews, and conference abstracts. Two people will review these articles, extract the data information, and assess the quality of studies separately. Data will be synthesized by either fixed-effects or random-effects model regarding to a heterogeneity test. The eyeball movement distance, size of fissure palpebrae, and the reduced degree of strabismus will be assessed as the primary outcomes. The secondary outcomes will be the size of the pupil, main symptom scores, ocular localization analysis, and functional impairment extent and safety. We will use the specific software called RevMan (version 5.3) to perform the meta-analysis.

RESULTS This study will provide a high-quality synthesis based on current evidence of acupuncture for ophthalmoplegia, especially its impacts on eyeball movement distance, size of fissure palpebrae, the reduced degree of strabismus, size of the pupil, main symptom scores, ocular localization analysis, and functional impairment extent and safety.

EXPECTED CONCLUSION Our systematic review will provide evidence to determine whether acupuncture is an effective and safe intervention for ophthalmoplegia patients.

ETHICS AND DISSEMINATION It is not necessary for this systematic review to acquire an ethical approval. This review will be disseminated in a peer-reviewed journal or conference presentation.

PROSPERO REGISTRATION NUMBER PROSPERO CRD42018091536.

Database: Medline
53. Comparison of two techniques for toric intraocular lens implantation: hydroimplantation versus ophthalmic viscosurgical devices.

**Author(s):** Chen, Yueqin; Cao, Qian; Xue, Chunyan; Huang, Zhenping  
**Source:** BMC ophthalmology; Apr 2018; vol. 18 (no. 1); p. 109  
**Publication Date:** Apr 2018  
**Publication Type(s):** Randomized Controlled Trial Journal Article  
**PubMedID:** 29699518

**Abstract:** BACKGROUND To compare the results between hydroimplantation of a single-piece, acrylic foldable toric intraocular lens (IOLs) and conventional implantation using an ophthalmic viscosurgical device (OVD). METHODS In this study, 60 eyes with cataract and preexisting regular corneal astigmatism of 1.0 to 3.0 diopters (D) underwent the implantation of the AcrySof toric IOLs (Alcon Laboratories, Inc.). The patients were randomly assigned to a conventional implantation technique with an OVD or a hydroimplantation technique. Comparison of preoperative and postoperative parameters was performed using paired Student t tests, and independent Student t test was used to compare between the two groups. RESULTS Three months postoperatively, the mean subjective astigmatism was 0.45 D ± 0.24 (SD) in the OVD group and 0.49 ± 0.29 D in the hydroimplantation group (P = 0.492). The mean endothelial cell density (ECD) loss was 7.54% ± 0.82% and 7.32% ± 0.59%, respectively (P = 0.117). The mean absolute IOL rotation was 4.77 ± 2.32 degrees and 4.70 ± 1.95 degrees, respectively (P = 0.334). The mean time for IOL implantation was 71.50 ± 8.10 s and 37.60 ± 3.90 s, respectively (P < 0.05), although IOP two hours postoperatively seemed to be a little higher in the OVD group. CONCLUSIONS Compared with the use of OVDs for toric IOLs implantation, the hydroimplantation technique provided advantages of increased efficiency, reduced surgical time and cost, and no concerns of OVD-induced elevated IOP. TRIAL REGISTRATION Current Controlled Trials ISRCTN55696872, Retrospectively registered (Date of registration: 25 March 2018).

**Database:** Medline

54. Optical correction of refractive error for preventing and treating eye symptoms in computer users.

**Author(s):** Heus, Pauline; Verbeek, Jos H; Tikka, Christina  
**Source:** The Cochrane database of systematic reviews; Apr 2018; vol. 4; p. CD009877  
**Publication Date:** Apr 2018  
**Publication Type(s):** Research Support, Non-u.s. Gov't Meta-analysis Journal Article Review
Abstract: BACKGROUND

Computer users frequently complain about problems with seeing and functioning of the eyes. Asthenopia is a term generally used to describe symptoms related to (prolonged) use of the eyes like ocular fatigue, headache, pain or aching around the eyes, and burning and itchiness of the eyelids. The prevalence of asthenopia during or after work on a computer ranges from 46.3% to 68.5%. Uncorrected or under-corrected refractive error can contribute to the development of asthenopia. A refractive error is an error in the focusing of light by the eye and can lead to reduced visual acuity. There are various possibilities for optical correction of refractive errors including eyeglasses, contact lenses and refractive surgery.

OBJECTIVES

To examine the evidence on the effectiveness, safety and applicability of optical correction of refractive error for reducing and preventing eye symptoms in computer users.

SEARCH METHODS

We searched the Cochrane Central Register of Controlled Trials (CENTRAL); PubMed; Embase; Web of Science; and OSH update, all to 20 December 2017. Additionally, we searched trial registries and checked references of included studies.

SELECTION CRITERIA

We included randomised controlled trials (RCTs) and quasi-randomised trials of interventions evaluating optical correction for computer workers with refractive error for preventing or treating asthenopia and their effect on health related quality of life.

DATA COLLECTION AND ANALYSIS

Two authors independently assessed study eligibility and risk of bias, and extracted data. Where appropriate, we combined studies in a meta-analysis.

MAIN RESULTS

We included eight studies with 381 participants. Three were parallel group RCTs, three were cross-over RCTs and two were quasi-randomised cross-over trials. All studies evaluated eyeglasses, there were no studies that evaluated contact lenses or surgery. Seven studies evaluated computer glasses with at least one focal area for the distance of the computer screen with or without additional focal areas in presbyopic persons. Six studies compared computer glasses to other types of glasses; and one study compared them to an ergonomic workplace assessment. The eighth study compared optimal correction of refractive error with the actual spectacle correction in use. Two studies evaluated computer glasses in persons with asthenopia but for the others the glasses were offered to all workers regardless of symptoms. The risk of bias was unclear in five, high in two and low in one study. Asthenopia was measured as eyestrain or a summary score of symptoms but there were no studies on health-related quality of life. Adverse events were measured as headache, nausea or dizziness. Median asthenopia scores at baseline were about 30% of the maximum possible score.

Progressive computer glasses versus monofocal glasses

One study found no considerable difference in asthenopia between various progressive computer glasses and monofocal computer glasses after one-year follow-up (mean difference (MD) change scores 0.23, 95% confidence interval (CI) -5.0 to 5.4 on a 100 mm VAS scale, low quality evidence). For headache the results were in favour of progressive glasses.

Progressive computer glasses with an intermediate focus in the upper part of the glasses versus other glasses

In two studies progressive computer glasses with intermediate focus led to a small decrease in asthenopia symptoms (SMD -0.49, 95% CI -0.75 to -0.23, low-quality evidence) but not in headache score in the short-term compared to general purpose progressive glasses. There were similar small decreases in dizziness. At medium term follow-up, in one study the effect size was not statistically significant (SMD -0.64, 95% CI -1.40 to 0.12). The study did not assess adverse events. Another study found no considerable difference in asthenopia between progressive computer glasses and monofocal computer glasses after one-year follow-up (MD change scores 1.44, 95% CI -6.95 to 9.83 on a 100 mm VAS scale, very low quality evidence). For headache the results were inconsistent.

Progressive computer glasses with far-distance focus in the upper part of the glasses versus other glasses

One study found no considerable difference in
number of persons with asthenopia between progressive computer glasses with far-distance focus and bifocal computer glasses after four weeks' follow-up (OR 1.00, 95% CI 0.40 to 2.50, very low quality evidence). The number of persons with headache, nausea and dizziness was also not different between groups. Another study found no considerable difference in asthenopia between progressive computer glasses with far-distance focus and monofocal computer glasses after one-year follow-up (MD change scores -1.79, 95% CI -11.60 to 8.02 on a 100 mm VAS scale, very low quality evidence). The effects on headaches were inconsistent. One study found no difference between progressive far-distance focus computer glasses and trifocal glasses in effect on eyestrain severity (MD -0.50, 95% CI -1.07 to 0.07, very low quality evidence) or on eyestrain frequency (MD -0.75, 95% CI -1.61 to 0.11, very low quality evidence). Progressive computer glasses versus ergonomic assessment with habitual (computer) glasses One study found that computer glasses optimised for individual needs reduced asthenopia sum score more than an ergonomic assessment and habitual (computer) glasses (MD -8.9, 95% CI -16.47 to -1.33, scale 0 to 140, very low quality evidence) but there was no effect on the frequency of eyestrain (OR 1.08, 95% CI 0.38 to 3.11, very low quality evidence). We rated the quality of the evidence as low or very low due to risk of bias in the included studies, inconsistency in the results and imprecision.

AUTHORS' CONCLUSIONS There is low to very low quality evidence that providing computer users with progressive computer glasses does not lead to a considerable decrease in problems with the eyes or headaches compared to other computer glasses. Progressive computer glasses might be slightly better than progressive glasses for daily use in the short term but not in the intermediate term and there is no data on long-term follow-up. The quality of the evidence is low or very low and therefore we are uncertain about this conclusion. Larger studies with several hundreds of participants are needed with proper randomisation, validated outcome measurement methods, and longer follow-up of at least one year to improve the quality of the evidence.

Database: Medline

55. New observation of microcystic macular edema as a mild form of cystoid macular lesions after standard phacoemulsification: Prevalence and risk factors.

Author(s): Yoon, Dong H; Kang, Dong J; Kim, Myung J; Kim, Hong K

Source: Medicine; Apr 2018; vol. 97 (no. 15); p. e0355

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29642179

Available at Medicine - from Europe PubMed Central - Open Access

Available at Medicine - from IngentaConnect - Open Access

Available at Medicine - from PubMed Central

Abstract: We present the new observations of postoperative microcystic macular edema (MME) as a mild form of cystoid macular lesions (CMLs) after standard phacoemulsification. To report the incidence, risk factors, and pathophysiology of MME compared to conventional concept of pseudophakic cystoid macular edema (CME), we retrospectively reviewed patients' records. Pseudophakic CMLs were defined as any cystic fluid collections that were newly formed after
cataract surgery, confirmed by preoperative and postoperative optical coherence tomography (OCT) examinations. CMLs were classified into 2 groups, which are CME and MME, according to the change the central retinal thickness. The dataset consisted of 316 patients (mean age, 67.52 ± 12.95 years; range, 42-87 years). Topical nonsteroidal anti-inflammatory drug (NSAID) were administered in 197 eyes during the perioperative period; 147 eyes were not treated. CMLs were present in 22 out of 344 (6.39%) eyes. Six of 344 eyes (1.74%) had CME and 16 of 344 eyes (4.65%) had MME. The incidence of MME significantly decreased in the group of patients treated with topical NSAIDs (P = .039), while the incidence of CME was not different in both groups (P = .408). All of the patients with MME were experienced improvement with only topical NSAIDs. However, 67% (4/6) of patients with CME did not improve with topical NSAIDs alone and needed additional treatments. Pseudophakic MMEs were more likely to have a history of diabetic retinopathy, epiretinal membrane, and eyes were not treated with topical NSAID. This study showed a wide clinical spectrum of CMLs. MME has not been included in the conventional definition of pseudophakic CME. Topical NSAIDs could decrease the CML incidence. People with risk factors for CML should use topical NSAIDs and undergo regular follow-up OCT examinations.

Database: Medline

56. Pars-plana fluid aspiration for positive vitreous cavity pressure in anterior segment surgeries.

Author(s): Kuriakose, Thomas; Jasper, Smitha; Thomas, Sherina

Source: Indian journal of ophthalmology; Apr 2018; vol. 66 (no. 4); p. 565-567

Publication Date: Apr 2018

Publication Type(s): Journal Article

PubMedID: 29582821

Available at Indian Journal of Ophthalmology - from Europe PubMed Central - Open Access
Available at Indian Journal of Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version
Available at Indian Journal of Ophthalmology - from EBSCO (MEDLINE Complete)
Available at Indian Journal of Ophthalmology - from PubMed Central

Abstract: Positive vitreous pressure due to misdirection of aqueous or choroidal effusion leads to shallowing of the anterior chamber (AC) before or during anterior segment surgeries. This shallow AC if not addressed makes surgery difficult and increases the risk of surgical complications. Methods to prevent and manage this condition described in literature are not without problems. We describe a minimally invasive technique of passing a 30G needle through the pars-plana to aspirate misdirected fluid from vitreous cavity either as a prophylaxis just before surgery or during it, thereby decreasing positive vitreous pressure. This technique, used in 12 eyes, seems to be effective in patients with angle-closure glaucoma, malignant glaucoma, and per-operative sudden increase in vitreous pressure during surgery. Small-incision surgeries are ideally suited for this procedure. This minimally invasive technique is simple to perform and complications are unlikely to be more than what is seen with intravitreal injections.
57. Small lens for a big eye: Successful management of anterior megalophthalmos.

**Author(s):** Matalia, Jyoti Himanshu; Tejwani, Sushma; Rajput, Vimal Krishna; Matalia, Himanshu

**Source:** Indian journal of ophthalmology; Mar 2018; vol. 66 (no. 3); p. 457-459

**Publication Date:** Mar 2018

**Publication Type(s):** Case Reports

**PubMedID:** 29480268

Abstract: We report a case of anterior megalophthalmos and complicated cataract, with apparently smaller lens in both eyes. The right eye had spontaneous retinal detachment. The child underwent cataract surgery in both the eyes with retinal detachment surgery in the right eye. Due to small size of the lenticular bag, a downsized customized intraocular lens (IOL) was implanted. Postoperatively, the IOL was well centered with ambulatory vision till 3 years of follow-up. This case describes this rare disorder and its association with apparently small-sized lens and discusses the course of its management, highlighting the visual rehabilitation with customization of IOLs.

**Database:** Medline

58. The outcome of transscleral cyclophotocoagulation for the management of acute angle closure.

**Author(s):** Chiam, Patrick J; Sung, Velota C T

**Source:** European journal of ophthalmology; Mar 2018; vol. 28 (no. 2); p. 188-192

**Publication Date:** Mar 2018

**Publication Type(s):** Journal Article

**PubMedID:** 28885674

Abstract: PURPOSETo investigate the outcome of transscleral cyclophotocoagulation (TCP) in the treatment of acute angle closure (AAC) refractory to medical treatment. METHODThis is a retrospective interventional case series. The inclusion criteria include patients diagnosed with AAC who had TCP. Pre-TCP and post-TCP intraocular pressure (IOP), visual acuity, and AAC treatment were analyzed. The complications and the results of subsequent treatments including lens extraction if performed were also assessed. RESULTThirteen eyes (13 patients) met the study criteria. The median time to TCP from presentation was 5 days (range 3-30 days). The mean presenting IOP was 56 ± 6 mm Hg (range 48-70 mm Hg) and the medically treated mean
IOP before TCP was 40 ± 5 mm Hg (range 34-52 mm Hg). All patients (100%) responded to TCP. The mean post-TCP IOP at day 1 and months 1, 3, 6, 12, and 24 were 19, 23, 19, 19, 18, and 17 mm Hg. There was 1 case of hyphema post-TCP. Lens extraction ± goniosynechialysis was performed in 10 patients (77%) from 1 month post-TCP onwards. The mean IOP prior to lens extraction was 26 mm Hg (range 19-32 mm Hg). The mean IOP 3 months after lens extraction was 15 mm Hg (range 8-19 mm Hg). The mean number of topical IOP-lowering medications 12 months post-TCP was 1.1. CONCLUSION: Transscleral cyclophotocoagulation is effective and safe in reducing IOP in patients with AAC refractory to medical and laser peripheral iridotomy treatments. We advocate that TCP should be considered early in the management of AAC refractory to medical treatment to avoid irreversible optic neuropathy.

Database: Medline

59. Incidence of Cystoid Macular Edema After Descemet Membrane Endothelial Keratoplasty.

Author(s): Kocab, Viridiana; Mouchel, Romain; Fleury, Jacques; Marty, Anne-Sophie; Janin-Manificat, Hélène; Maucort-Boulch, Delphine; Burillon, Carole

Source: Cornea; Mar 2018; vol. 37 (no. 3); p. 277-282

Publication Date: Mar 2018

Publication Type(s): Journal Article

PubMedID: 29298168

Abstract: PURPOSE: The incidence of and risk factors for cystoid macular edema (CME) after Descemet membrane endothelial keratoplasty (DMEK) remain uncertain. This study examines the incidence of and risk factors for CME after DMEK. METHODS: This retrospective, single-center study included patients with no history of CME who had undergone DMEK. Patients were examined weekly for 1 month after surgery and at 3 and 6 months after surgery. Follow-up examinations included visual acuity (VA) assessment, pachymetry, anterior segment optical coherence tomography, biomicroscopy, intraocular pressure measurement, and fundoscopy. Eyes suspected of having CME (reduced VA and/or abnormal fundoscopic findings) underwent macular optical coherence tomography. Potential risk factors for CME examined included age, axial length, anterior chamber rebubbling, not using a topical nonsteroidal antiinflammatory after surgery, and concurrent DMEK and cataract surgery (triple-DMEK). RESULTS: Eighty eyes (74 subjects) were included. Eleven eyes (13.8%) developed CME within 6 months after undergoing DMEK. Univariate analyses did not identify any significant CME risk factors. Interestingly, the triple-DMEK procedure did not put subjects at risk for developing CME (P = 0.184). Visual prognosis after medical treatment for CME was excellent, and subjects with and without CME had comparable VA at 6 months [CME: logarithm of the minimum angle of resolution (logMAR) VA = 0.3 (first-third quartile: 0.1-1.0), 20/40; no CME: logMAR VA = 0.3 (0.1-0.5), 20/40; P = 0.391]. CONCLUSIONS: Although CME frequently occurred after DMEK, no CME risk factors were identified. In addition, CME did not significantly affect long-term visual outcomes when it was appropriately treated.

Database: Medline
60. Pre-treatment clinical features in central retinal vein occlusion that predict visual outcome following intravitreal ranibizumab.

**Author(s):** Brogan, Kerr; Precup, Monica; Rodger, Amanda; Young, David; Gilmour, David Francis

**Source:** BMC ophthalmology; Feb 2018; vol. 18 (no. 1); p. 37

**Publication Date:** Feb 2018

**Publication Type(s):** Journal Article

**PubMedID:** 29426292

**Abstract:**

**BACKGROUND**

Predicting how patients with central retinal vein occlusion (CRVO) will respond to intravitreal anti-VEGF is challenging. The purpose of this study was to identify pre-treatment clinical features in CRVO that predict visual acuity (VA) following intravitreal ranibizumab.

**METHODS**

Medical records, fundus images and optical coherence tomography (OCT) scans of treatment naïve patients with CRVO receiving PRN intravitreal ranibizumab were retrospectively reviewed. Early Treatment Diabetic Retinopathy Study (ETDRS) VA and central retinal thickness (CRT) were recorded at baseline, 3 and 12 months after starting therapy. Regression analysis was used to determine independent predictors of VA at 3 and 12 months follow-up. Possible predictors included baseline VA, age, presence of cotton wool spots (CWS), haemorrhages (few scattered or multiple deep), foveal detachment, CRT, time from presentation to treatment, number of injections given, presence of RAPD, and cause of CRVO.

**RESULTS**

Data from 52 eyes of 50 patients receiving intravitreal ranibizumab treatment for CRVO were analyzed. The mean pre-treatment VA was 43.3 (SD 22.5) letters, which improved to 52.0 (SD 24.3) letters at 3 months, then dropped to 42.0 (SD 30.26) at 12 months. Baseline CRT reduced from 616.7 μm (SD 272.4) to 346.0 μm (SD 205.2) at 3 months and 304.0 μm (SD 168.3) at 12 months. The following features were predictive of poorer VA after starting intravitreal ranibizumab: Poorer pretreatment VA (3-months, P = 0.010; 12-months, P = 0.006), increasing age (3-months, P = < 0.001; 12-months, P = 0.006), and presence of CWS (3-months, P < 0.001; 12-months, P = 0.045).

**CONCLUSION**

Pre-treatment VA, older age, and presence of CWS are easily identifiable clinical features in the hospital setting which help predict visual outcome in patients with CRVO receiving intravitreal ranibizumab.

**Database:** Medline
61. A retrospective study on the incidence of post-cataract surgery Descemet's membrane detachment and outcome of air descemetopexy.

**Author(s):** Odayappan, Annamalai; Shivananda, Narayana; Ramakrishnan, Seema; Krishnan, Tiruvengada; Nachiappan, Sivagami; Krishnamurthy, Smitha

**Source:** The British journal of ophthalmology; Feb 2018; vol. 102 (no. 2); p. 182-186

**Publication Date:** Feb 2018

**Publication Type(s):** Journal Article

**PubMedID:** 28611131

Available at [British Journal of Ophthalmology](https://www.bmj.com) - from BMJ Journals - NHS

**Abstract:**

**PURPOSE**

To study the anatomic and functional outcome of air descemetopexy in postcataract surgery Descemet's membrane detachment (DMD).

**DESIGN**

Retrospective study.

**METHODS**

Setting: Institutional.

**STUDY POPULATION**

Records of 112 patients who underwent air descemetopexy for postcataract surgery sight-threatening DMD at Aravind Eye Hospital, Pondicherry, between January 2013 and December 2015 were studied.

**MAIN OUTCOME MEASURES**

Anatomical outcome refers to reattachment of the Descemet's membrane (DM). Functional outcome was given by the best-corrected visual acuity.

**RESULT**

The mean age was 66.47±8.46 (SD) years, the male to female ratio was 45:67. The incidence of DMD was more in extracapsular cataract extraction (0.26%) and manual small incision cataract surgery (0.11%) than phacoemulsification (0.04%) (p=0.005 and p<0.0001). DMD was more common among surgical trainees (0.17%) than consultants (0.07%) (p≤0.0001). After primary air descemetopexy, 78 (71%) out of the 110 patients had DM reattachment. The complications noted after descemetopexy include persistent DMD (21.8%), corneal decompensation (7.3%), appositional angle closure (18%), pupillary block with air (2.7%) and uveitis (2.7%). Age, sex and timing of intervention did not influence the reattachment rate. Fifteen patients underwent repeat air descemetopexy for persistent DMD among whom nine (60%) had successful reattachment. Almost 75% of patients had vision better than 6/18 1 month after anatomically successful descemetopexy.

**CONCLUSION**

Air descemetopexy is a safe and efficient modality of treatment of DMD and should be tried even in patients with severe DMD before planning a major surgery like endothelial keratoplasty.

**Database:** Medline

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**Author(s):** Briscoe, Daniel; Safieh, Christine; Ton, Yokrat; Shapiro, Hava; Assia, Ehud I; Kidron, Dvora

**Source:** International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 271-277

**Publication Date:** Feb 2018

**Publication Type(s):** Journal Article

**PubMedID:** 28364339

Available at [International Ophthalmology](https://www.proquest.com) - from ProQuest (Hospital Premium Collection) - NHS Version
Abstract: OBJECTIVE: Evaluation of the medical data of patients with orbital and adnexal lymphoma. DESIGN: Cohort study of all cases diagnosed with orbital or adnexal lymphoma at Meir Medical Center between 1993 and 2007. PARTICIPANTS: Twenty-six patients, with intraorbital or subconjunctival masses with orbital involvement, were examined and followed up between 1 and 8 years. MATERIALS AND METHODS: Examined data included: clinical presentation, age, gender, imaging, tumor location, surgical management, and pathological diagnosis. RESULTS: Presenting signs and symptoms included proptosis, eyelid lesions, tearing, chemosis, decreased visual acuity, ptosis, pain, squint, and optic nerve compression. In five cases, lymphoma was misdiagnosed on neuroimaging. Bone changes were seen in four patients. All cases were B cell lymphomas; with the majority (22 cases) of small B cell type; consisting of primary extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue and two cases of small cell lymphoma. One small cell lymphomas was of follicular type on a background of CLL, and the other was CLL/SLL type. Fourteen cases were primary orbital disease, and 12 cases were systemic disease. Macroscopic appearance of lymphoma at open biopsy was characteristic in most cases. Flow cytometry phenotyping gave rapid reliable diagnosis of the disease. CONCLUSION: Epiphora or chemosis in the presence of an orbital mass should alert the ophthalmologist to suspect lymphoma. Lymphoma may be easily misinterpreted on neuroimaging for other diseases. Bone changes seen on CT are more common than is generally perceived. Macroscopic appearance at open biopsy was characteristic.

Database: Medline

63. Efficacy and safety of adding ripasudil to existing treatment regimens for reducing intraocular pressure.

Author(s): Inoue, Kenji; Okayama, Ryoko; Shiokawa, Minako; Ishida, Kyoko; Tomita, Goji

Source: International ophthalmology; Feb 2018; vol. 38 (no. 1); p. 93-98

Publication Date: Feb 2018

Publication Type(s): Journal Article

PubMedID: 28063100

Available at International Ophthalmology - from ProQuest (Hospital Premium Collection) - NHS Version

Available at International Ophthalmology - from EBSCO (MEDLINE Complete)

Abstract: PURPOSE: Ripasudil accelerates aqueous humour drainage along the trabecular meshwork-Schlemm’s canal route and has been approved for clinical use in Japan. We retrospectively investigated the efficacy and safety of adding ripasudil to existing treatment regimens to reduce intraocular pressure (IOP) in patients with glaucoma. METHODS: Total of 119 eyes from 119 subjects (61 men, 58 women) with primary open-angle glaucoma or ocular hypertension who had ripasudil added to their treatment regimens between December 2014 and June 2015 were included. An average of 3.8 ± 1.0 anti-glaucoma medications was in use before adding ripasudil. Subjects were divided into four groups based on the number of medications included in the original treatment regimen: ≤2, 3, 4, or ≥5 medications. The IOP was compared before and after 1 and 3 months of treatment with ripasudil for all subjects and
between groups. Patients for whom ripasudil use was discontinued within 3 months were also examined.

**RESULTS**
The IOP was significantly lower in all patients after 1 month (17.5 ± 4.5 mmHg) and 3 months (16.8 ± 4.2 mmHg) of treatment than it was before (19.8 ± 5.3 mmHg, p < 0.0001). All groups were equivalent in the rate and magnitude of IOP change. Ripasudil administration was discontinued in five patients (4.2%) prior to the end of the study: three were lost to follow-up and two underwent glaucoma surgery.

**CONCLUSION**
Adding ripasudil to existing glaucoma treatment regimens is effective and safe in reducing IOP, regardless of the number of medications in use.

**Database:** Medline

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64. Allergic eye disease

**Author(s):** Patel, Darshak S; Arunakirinathan, Meena; Stuart, Alastair; Angunawela, Romesh

**Source:** BMJ : British Medical Journal (Online); Nov 2017; vol. 359 ; p. n

**Publication Date:** Nov 2017

**Publication Type(s):** Journal Article

**Abstract:** Perennial allergic conjunctivitis is triggered by environmental allergens such as house dust mites, animal dander, fungal spores, or moulds, and does not follow a seasonal pattern. Both types of conjunctivitis involve a type I (immunoglobulin E mediated) hypersensitivity response, with degranulation of conjunctival mast cells in response to airborne allergens and release of inflammatory mediators including histamine. Patients might present with persistent low grade symptoms or acute exacerbations. The review concluded that acaricide sprays might be the most effective single intervention in both reducing house dust mite loads and improving symptoms of allergic rhinitis. In practice, multi-modal allergen avoidance methods might confer some benefit in perennial allergic conjunctivitis when the allergen is known, but the effectiveness is likely to be limited by patient compliance or financial constraints. Pharmacological eye drops Topical corticosteroids Topical steroids are useful in seasonal and perennial allergic conjunctivitis refractory to the above measures, and are generally needed to suppress flares of vernal and atopic keratoconjunctivitis. However, their association with cataract and elevated intraocular pressure leading to glaucoma is well documented. The national ophthalmic associations in the UK and the USA recommend the use of topical steroids only under the care of an ophthalmologist or those trained to measure intra-ocular pressures and perform a slit lamp exam to assess for cataract, glaucoma, and potential contraindications such as herpes simplex and fungal keratitis. A pooled odds ratio of adverse events did not show increased burning or stinging with ciclosporin. The use of topical tacrolimus, a newer and more potent calcineurin inhibitor, has been explored in patients with severe allergic eye disease in a small randomised controlled trial (30 participants) comparing tacrolimus with ciclosporin, an observational study (1436 patients) and a non-blinded cohort study (791 patients).

**Database:** BNI
65. Eye complications from self-injury in a child

Author(s): Felfeli, Tina, BSc; Mireskandari, Kamiar, MBChB PhD

Source: Canadian Medical Association. Journal; Jan 2018; vol. 190 (no. 4); p. E114

Publication Date: Jan 2018

Publication Type(s): Journal Article

Available at CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne - from Europe PubMed Central - Open Access

Abstract: Felfeli and Mireskandari provide details on a 14-year-old boy with autism spectrum disorder who was referred to a pediatric eye clinic for a "blue haze" in both eyes. He had a history of self-injury, which included hitting his head and vigorous eye rubbing that had led to bilateral lichenification of the eyelids. On examination, the patient had cataracts bilaterally, with a retinal tear and a chronic retinal detachment in the right eye and an acute shallow retinal detachment in the left eye. In an effort to preserve vision, an urgent surgical repair of the retinal detachment and cataract extraction with intraocular lens implantation for the left eye were performed, which healed successfully with the aid of a safety helmet incorporating eye protection postoperatively.

Database: BNI

66. Anatomy and physiology of ageing 6: the eyes and ears

Author(s): Knight, John; Wigham, Chris; Nigam, Yamni

Source: Nursing Times; Jul 2017; vol. 113 (no. 7); p. 39

Publication Date: Jul 2017

Publication Type(s): Journal Article

Abstract: The special senses—sight, hearing, smell, touch and balance—allow us to perceive the world and communicate. Like all body systems, they undergo age-related changes that negatively affect their function. Physiological changes to the eyes and ears mean older people gradually see, hear and balance less well. The changes also increase the risk of conditions such as cataracts, age-related macular degeneration, and conductive and sensory hearing loss. This sixth article in our series on the effects of age on the body describes what happens to the eyes and ears.

Database: BNI
NICE PUBLICATIONS

Nice Guidance and publications
(https://www.nice.org.uk/guidance/conditions-and-diseases/eye-conditions)

Cataracts in adults: management
NICE guideline [NG77] Published date: October 2017
https://www.nice.org.uk/guidance/ng77

Holoclar for treating limbal stem cell deficiency after eye burns
Technology appraisal guidance [TA467] Published date: 16 August 2017
https://www.nice.org.uk/guidance/ta467

ORA G3 to measure corneal hysteresis
Medtech innovation briefing [MIB150] Published date: June 2018
https://www.nice.org.uk/advice/mib150

Cenegermin for treating neurotrophic keratitis [ID946]
In development [GID-TA10131] Expected publication date: 18 July 2018
https://www.nice.org.uk/guidance/indevelopment/gid-ta10131

Adalimumab and dexamethasone for treating non-infectious uveitis
Technology appraisal guidance [TA460] Published date: 26 July 2017
https://www.nice.org.uk/guidance/ta460

Aflibercept for treating choroidal neovascularisation
Technology appraisal guidance [TA486] Published date: 01 November 2017
https://www.nice.org.uk/guidance/ta486

Eculizumab for treating refractory myasthenia gravis [ID1064]
In development [GID-TA10176] Expected publication date: 23 May 2018
https://www.nice.org.uk/guidance/indevelopment/gid-ta10176

Serious eye disorders
In development [GID-QS10058] Expected publication date: 12 February 2019
https://www.nice.org.uk/guidance/indevelopment/gid qs10058

Lifitegrast for treating dry eye disease [ID1229]
Proposed [GID-TA10196] Expected publication date: TBC
https://www.nice.org.uk/guidance/proposed/gid-ta10196

Voretigene neparvovec for treating inherited retinal dystrophies caused by RPE65 gene mutations ID1054
Proposed [GID-TA10200] Expected publication date: TBC
https://www.nice.org.uk/guidance/proposed/gid-ta10200

Glaucoma: diagnosis and management
NICE guideline [NG81] Published date: November 2017
https://www.nice.org.uk/guidance/ng81

Ab interno supraciliary microstent insertion with phacoemulsification for primary open-angle glaucoma
Interventional procedures guidance [IPG605] Published date: February 2018
https://www.nice.org.uk/guidance/ipg605

Microinvasive subconjunctival insertion of a trans-scleral gelatin stent for primary open-angle glaucoma
Interventional procedures guidance [IPG612] Published date: April 2018
https://www.nice.org.uk/guidance/ipg612

KnowYourDrops Eye Drop Compliance Campaign to Achieve Medicines Optimisation in Ophthalmology
Shared learning database
Organisation:
Moorfields Eye Hospital NHS Foundation Trust
Published date:
September 2017

Age-related macular degeneration
NICE guideline [NG82] Published date: January 2018
https://www.nice.org.uk/guidance/ng82

Noctura 400 Sleep Mask for diabetic retinopathy and diabetic macular oedema
Medtech innovation briefing [MIB144] Published date: April 2018
https://www.nice.org.uk/advice/mib144
Please note that information provided in this update is collated from a variety of sources but coverage of the topic is not comprehensive.

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