**Supplementary materials online**
**Tables**

Please note these search terms include EX-PRESS-related terms as this non-MIGS procedure was part of the full-analysis set.

**Supplementary Table 1a:** Search terms used for MEDLINE, Ovid MEDLINE® In-Process and other non-indexed citations and Ovid MEDLINE® 1946 to 13 December 2016.

| | SEARCH TERMS | RESULTS | |
|---|---|---|---|
| 1 | exp open angle glaucoma/ | 12996 | |
| 2 | (open adj2 angle adj2 glaucoma$).tw. | 10247 | |
| 3 | POAG.tw. | 3023 | |
| 4 | (primary adj2 glaucoma$).tw. | 1880 | |
| 5 | 1 or 2 or 3 or 4 | 17215 | |
| 6 | exp Microsurgery/ae, ct, ec, mt, mo, st [Adverse Effects, Contraindications, Economics, Methods, Mortality, Standards] | 14055 | |
| 7 | Minimally Invasive Surgical Procedure/ | 21359 | |
| 8 | glaucoma drainage Implants [No Related Terms] | 1239 | |
| 9 | drainage surgery [No Related Terms] | 9592 | |
| 10 | Canaloplasty [No Related Terms] | 173 | |
| 11 | xen.tw. | 148 | |
| 12 | cypass.tw. | 15 | |
| 13 | istent.tw. | 54 | |
| 14 | migs.tw. | 107 | |
| 15 | Micro-Invasive Glaucoma Surgery [No Related Terms] | 230 | |
| 16 | (implant$ or shunt$ or device$ or drain$ or stent$ or microstent$ or Microshunt$).tw. | 819591 | |
| 17 | Express.ti,ab. | 176196 | |
| 18 | EX-PRESS.ti,ab. | 136 | |
| 19 | micro invasive glaucoma.ti,ab. | 5 | |
| 20 | trabecular micro-bypass.ti,ab. | 28 | |
| 21 | exp trabeculectomy/ | 4968 | |

| | SEARCH TERMS | RESULTS | |
|---|---|---|---|
| 22 | trabeculectom$.tw. | 4552 | |
| 23 | Viscocanaloplast$.tw. | 3 | |
| 24 | glaucoma surgery [No Related Terms] | 1828 | |
| 25 | (filtrat$ adj3 surg$).tw. | 1034 | |
| 26 | exp glaucoma drainage implant/ | 1355 | |
| 27 | or/6-26 | 1029462 | |
| 28 | 5 and 27 | 3671 | |
| 29 | randomized controlled trial.pt. | 469809 | |
| 30 | controlled clinical trial.pt. | 95075 | |
| 31 | randomi$ed.ab. | 2 | |
| 32 | placebo.tw. | 194790 | |
| 33 | clinical trials as topic.sh. | 189502 | |
| 34 | randomly.ab. | 281227 | |
| 35 | trial.ab. | 419455 | |
| 36 | groups.ab. | 1731314 | |
| 37 | (crossover or cross-over or cross over).tw. | 74600 | |
| 38 | ((singl$ or double$ or triple$) and (blind$ or mask$)).tw,sh. | 181603 | |
| 39 | Epidemiologic Studies/ or exp Case-Control Studies/ or exp Cohort Studies/ or exp Cross-Sectional Studies/ or exp Control Groups/ or Longitudinal Studies/ or Prospective Studies/ or Retrospective Studies/ or Comparative Study/ or research design/ or Observational Study/ | 3726085 | |
| 40 | (case control or case-control).ti,ab. | 108644 | |
| 41 | ((follow up or follow-up) adj (study or studies)).ti,ab. | 44970 | |
| 42 | (Longitudinal or retrospective or prospective or comparative or cohort or cross sectional or cross-sectional).ti,ab. | 1695970 | |
| 43 | ((observ$ or registry) adj3 (study or studies)).ti,ab. | 141515 | |
| 44 | (Epidemiolog$ adj (study or studies or analysis)).ti,ab. | 82957 | |

| | SEARCH TERMS | RESULTS | |
|---|---|---|---|
| 45 | or/29-44 | 6126750 | |
| 46 | 28 and 45 | 2313 | |
| 47 | (animal$ not human$).sh,hw. | 4626241 | |
| 48 | 46 not 47 | 2300 | |
| 49 | limit 48 to (english language and yr="2005-Current") | 1092 | |
| | | | |

**Supplementary Table 1b:** Search terms used for EMBASE from 1988 to 14 December 2016.

| | | SEARCH TERMS | RESULTS | |
|---|---|---|---|---|
| | 1 | exp open angle glaucoma/ | 12120 | |
| | 2 | (open adj2 angle adj2 glaucoma$).tw. | 9523 | |
| | 3 | POAG.tw. | 3119 | |
| | 4 | (primary adj2 glaucoma$).tw. | 1387 | |
| | 5 | 1 or 2 or 3 or 4 | 14100 | |
| | 6 | Microsurgery/ | 23846 | |
| | 7 | Minimally Invasive Surgical Procedure/ | 34190 | |
| | 8 | glaucoma drainage Implants [No Related Terms] | 74 | |
| | 9 | drainage surgery [No Related Terms] | 15978 | |
| | 10 | Canaloplasty [No Related Terms] | 204 | |
| | 11 | xen.tw. | 264 | |
| | 12 | cypass.tw. | 16 | |
| | 13 | istent.tw. | 74 | |
| | 14 | migs.tw. | 166 | |
| | 15 | Micro-Invasive Glaucoma Surgery [No Related Terms] | 1282 | |
| | 16 | (implant$ or shunt$ or device$ or drain$ or stent$ or microstent$ or Microshunt$).tw. | 905141 | |
| | 17 | Express.ti,ab. | 183325 | |
| | 18 | EX-PRESS.ti,ab. | 169 | |
| | 19 | micro invasive glaucoma.ti,ab. | 12 | |

| | | SEARCH TERMS | RESULTS | |
|---|---|---|---|---|
| | 20 | trabecular micro-bypass.ti,ab. | 33 | |
| | 21 | exp trabeculectomy/ | 6375 | |
| | 22 | trabeculectom$.tw. | 4792 | |
| | 23 | Viscocanaloplast$.tw. | 2 | |
| | 24 | glaucoma surgery [No Related Terms] | 3736 | |
| | 25 | (filtrat$ adj3 surg$).tw. | 1071 | |
| | 26 | exp glaucoma drainage implant/ | 1584 | |
| | 27 | or/6-26 | 1141189 | |
| | 28 | 5 and 27 | 3296 | |
| | 29 | randomized controlled trial/ | 449281 | |
| | 30 | controlled clinical trial [No Related Terms] | 10992 | |
| | 31 | randomi$ed.ab. | 7 | |
| | 32 | placebo.tw. | 226257 | |
| | 33 | clinical trials [No Related Terms] | 14256 | |
| | 34 | randomly.ab. | 325723 | |
| | 35 | trial.ab. | 504221 | |
| | 36 | groups.ab. | 2013349 | |
| | 37 | (crossover or cross-over or cross over).tw. | 75112 | |
| | 38 | ((singl$ or double$ or triple$) and (blind$ or mask$)).tw,sh. | 203801 | |
| | 39 | Epidemiologic Studies/ or exp Case-Control Studies/ or exp Cohort Studies/ or exp Cross-Sectional Studies/ or exp Control Groups/ or Longitudinal Studies/ or Prospective Studies/ or Retrospective Studies/ or Comparative Study/ or research design/ or Observational Study/ | 3017556 | |
| | 40 | (case control or case-control).ti,ab. | 120661 | |
| | 41 | ((follow up or follow-up) adj (study or studies)).ti,ab. | 44704 | |
| | 42 | (Longitudinal or retrospective or prospective or comparative or cohort or cross sectional or cross-sectional).ti,ab. | 2098726 | |
| | 43 | ((observ$ or registry) adj3 (study or studies)).ti,ab. | 191413 | |

| | | SEARCH TERMS | RESULTS | |
|---|---|---|---|---|
| | 44 | (Epidemiolog$ adj (study or studies or analysis)).ti,ab. | 86463 | |
| | 45 | or/29-44 | 6118573 | |
| | 46 | 28 and 45 | 1756 | |
| | 47 | (animal$ not human$).sh,hw. | 2797738 | |
| | 48 | 46 not 47 | 1747 | |
| | 49 | limit 48 to (English language and yr="2005-Current") | 943 | |

**Supplementary Table 1c:** Cochrane Library and Cochrane Central Register of Controlled Trials (CENTRAL). Date of search 14 December 2016.

| | | |
|---|---|---|
| #1 | MeSH descriptor: [Glaucoma, Open-Angle] explode all trees | 1384 |
| #2 | (open adj2 angle adj2 glaucoma$) .tw. | 31 |
| #3 | POAG.tw. | 4 |
| #4 | #1 or #2 or #3 | 1408 |
| #5 | MeSH descriptor: [Minimally Invasive Surgical Procedures] explode all trees | 26091 |
| #6 | MeSH descriptor: [Ophthalmologic Surgical Procedures] explode all trees | 5374 |
| #7 | MeSH descriptor: [Microsurgery] explode all trees | 612 |
| #8 | glaucoma drainage Implants | 81 |
| #9 | drainage surgery | 4035 |
| #10 | Canaloplasty | 12 |
| #11 | Micro Invasive Glaucoma surgery | 7 |
| #12 | Microshunt:ti,ab | 2 |
| #13 | trabeculectomy | 1047 |
| #14 | Viscocanaloplasty | 1 |
| #15 | glaucoma surgery | 1775 |
| #16 | glaucoma drainage implant | 82 |
| #17 | #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 | 36379 |
| #18 | #4 and #17 Publication Year from 2005 to | 217 |

2016

**Supplementary Table 1d:** NIHR Centre for Reviews and Dissemination, HTA and NHS EED. Date of search 14 December 2016.

| | | | | |
|---|---|---|---|---|
| | 1 | Open Angle glaucoma (any field) | | |
| | 2 | Surgery | | |
| | 3 | 1 AND 2 | | |
| | 4 | NHS EED CRD assessed economic evaluation (bibliographic), CRD assessed economic evaluation (full abstract), HTA in progress and HTA published | | |
| | 5 | Publication year 2005 to 2016 | | |
| | | | | 21 |

**Supplementary Table 2:** Characteristics and outcomes from additional trials on MIGS devices.

| MIGS device | Ref | Study design | IOP-lowering intervention | Sub-group | Intervention | Population | Longest follow-up (months) | Mean baseline IOP | Mean IOP level at longest follow-up | Relative reduction in IOP (mean/median IOP reduction) | | Reduction in number of eye drops used by patients at longest follow-up (mean reduction ±SD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | MIGS | Comparator | |
| **iStent** | (Belovay *et al*., 2012) | Comparative case series (*n*=47) | Phacoemulsification | iStent | Multiple trabecular micro-bypass stents Group 1: 2 stents | Canada | 1 year | 17.3 mmHg ± 4.0 | 13.8 mmHg significantly lower than the pre-operative IOP, P<.001) | 3.5 mmHg 20% reduction from baseline | | The mean number of topical ocular hypotensive medications significantly decreased to 1.0 medication, representing a 64% reduction |
| | (Belovay *et al*., 2012) | Comparative case series (*n*=47) | MIGS | iStent | Group 2: 3 stents | Canada | 1 year | 18.6 mmHg ± 4.0 | 14.8 mmHg (significantly lower than the pre-operative IOP, P<.001) | 3.8 mmHg 20% reduction from baseline | | Mean significantly decreased to 0.4 medication, representing a 85% reduction |
| | (Gonnermann *et al*., 2016) | Retrospective intra-individual eye comparison study (*n*=25) | MIGS | iStent | 2× iStent inject devices with micro-incision cataract surgery (MICS) | Germany | 12 months | 21.3 ± 4.1 mmHg | 14.0 ± 2.3 mmHg | 7.3 mmHg 34% reduction from baseline | | Baseline medications was 2.04 ± 0.89 and reduced to 1.28 ± 1.17 |

| MIGS device | Ref | Study design | IOP-lowering intervention | Sub-group | Intervention | Population | Longest follow-up (months) | Mean baseline IOP | Mean IOP level at longest follow-up | Relative reduction in IOP (mean/median IOP reduction) | | Reduction in number of eye drops used by patients at longest follow-up (mean reduction ±SD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | MIGS | Comparator | |
| | | Retrospective intra-individual eye comparison study (*n*=25) | MICS and *ab interno* trabeculectomy | Trabeculectomy | *Ab interno* trabeculectomy with micro-incision cataract surgery (MICS) | Germany | 12 months | 22.3 ± 3.7 mmHg | 15.6 ± 3.6 mmHg | | 6.7 mmHg 30% reduction from baseline | Baseline medications was 2.08 ± 1.12 and reduced to 1.44 ± 1.29 |
| | (Khan *et al.*, 2015) | Retrospective case series (*n*=49) | MIGS | iStent | Two trabecular microbypass stents | Canada | 12 months | 19.6 ± 5.2 | 14.3 ± 3.1 | 5.3 mmHg 27% reduction from baseline | | AGM Pre-operative 2.86 ± 0.9112 months: 1.22 ± 1.28 |
| | | Retrospective case series (*n*=52) | MIGS | Trabectome | *Ab interno* trabeculotomy | Canada | 12 months | 20.6 ± 6.8 mmHg | 17.3 ± 6.5 mmHg | | 3.3 mmHg 16% reduction from baseline | Pre-operative: 2.90 ± 1.1012 months: 2.15 ± 1.35 |
| | (Kurji *et al.*, 2015) | Retrospective comparative case series (*n*=34) | MIGS | phaco-iStent (Pi) | phaco-iStent (Pi) | Country: comorbidities: n/a | 12 months | 17.47 ± 4.87 | 13.6 ± 3.4 mmHg) | 3.8 mmHg 22% relative reduction from baseline | | Before surgery, medication was 2.15 ± 1.2112 months: 2.15 ± 1.4 |
| | | Retrospective comparative case series (*n*=36) | MIGS | Trabectome mircrostent | phaco-trabectome (PT) | Country: comorbidities: n/a | 12 months | 20.92 ± 5.07 | 16.0 ± 3.3 mmHg | 4.9 mmHg 24% relative reduction from baseline | | Before surgery, medication was 2.25 ± 1.34.12 months: 2.15 ± 1.3 |

| MIGS device | Ref | Study design | IOP-lowering intervention | Sub-group | Intervention | Population | Longest follow-up (months) | Mean baseline IOP | Mean IOP level at longest follow-up | Relative reduction in IOP (mean/median IOP reduction) | | Reduction in number of eye drops used by patients at longest follow-up (mean reduction ±SD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | MIGS | Comparator | |
| | (Tan and Au, 2016) | Prospective, uncontrolled, interventional case series (*n*=36) | MIGS | iStent | iStent | UK | 36 months | 21.2±4.7 | 17.1±2.4 | 4.1 mmHg 19% reduction from baseline | | Mean 2.1±1.0 medications at baseline, and 1.3±1.2 at 3 years |
| | | Prospective, uncontrolled, interventional case series (*n*=36) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| **CyPass** | (Hoeh *et al.*, 2013) | Prospective interventional case series (*n*=91) | MIGS | CyPass | CyPass Micro-Stent. Patients with uncontrolled primary or secondary OAG with IOP of 21 mmHg or higher who had failed previous topical or surgical glaucoma treatment (Cohort 1) | USA | 6 months | 21.1 mmHg ± 5.91 (SD) | 15.6 ± 0.53 mmHg, a significant reduction from baseline (P<.001) | 5.5 mmHg 26% reduction from baseline | | The mean number of medications used at the 6-month visit was 0.9 ± 0.15, which was significantly reduced from baseline (P!.001) (Baseline medication: 2.1 ± 1.1 (NZ184). |

| MIGS device | Ref | Study design | IOP-lowering intervention | Sub-group | Intervention | Population | Longest follow-up (months) | Mean baseline IOP | Mean IOP level at longest follow-up | Relative reduction in IOP (mean/median IOP reduction) | | Reduction in number of eye drops used by patients at longest follow-up (mean reduction ±SD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | MIGS | Comparator | |
| | | Prospective interventional case series (*n*=93) | Trabeculectomy | CyPass | Patients with controlled IOP of less than 21 mmHg who wanted to reduce their dependence on topical medication therapy (Cohort 2) | USA | 6 months | 21.1 mmHg ± 5.91 (SD) | 15.6 ± 0.68 mmHg | 5.5 mmHg 26% reduction from baseline | | 0.6 ± 0.07 |
| | (Höh *et al.*, 2014) | Prospective, consecutive case series study (*n*=51) | MIGS | CyPass | CyPass Micro-Stent Cohort 1: IOP ≥ 21 mmHg despite topical medication or srior surgical glaucoma treatment | USA | 24 months | 25.5 mmHg | 16.1 mmHg | 9.4 mmHg 37% reduction from baseline | | Baseline: 2.2 2 Year: 1.0 ± 1.1 |
| | | Prospective, consecutive case series study (*n*=85) | MIGS | CyPass | CyPass Micro-Stent Cohort 2: IOP <21 mmHg on glaucoma medication | USA | 24 months | 16.4 mmHg | 15.8 mmHg | 0.6 mmHg 4% reduction from baseline | | Baseline: 2.02 Year: 1.1 ± 1.1 |

| MIGS device | Ref | Study design | IOP-lowering intervention | Sub-group | Intervention | Population | Longest follow-up (months) | Mean baseline IOP | Mean IOP level at longest follow-up | Relative reduction in IOP (mean/median IOP reduction) | | Reduction in number of eye drops used by patients at longest follow-up (mean reduction ±SD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | MIGS | Comparator | |
| | (Höeh *et al.*, 2016) | Open-label, interventional, multicentre study of the safety and efficacy of microstent implantation (*n*=167) | MIGS | CyPass | CyPass | Austria, Bulgaria, Germany, Italy, Poland, Spain | 12 months | 20.2 ± 6.09 | 15.9 ± 3.1 | 4.3 mmHg 21% reduction from baseline | | Mean number of glaucoma medications fell from 2.1 at baseline to 1.1 at 12 months |
| | | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| **Hydrus** | (Fea *et al.*, 2016) | Prospective interventional case-series (*n*=56) | Cataract surgery with MIGS | Hydrus Micro-Stent | Hydrus Micro-Stent | Italy | 12 months | 23.09 ± 5.08 | 16.5 ± 2.6 | 6.5 mmHg 28% reduction from baseline | | Baseline: 2.29 ± 0.83 |
| | | Prospective interventional case-series (*n*=56) | Selective laser Traculoplasty (SLT) | Selective laser tracul-oplasty (SLT) | Selective laser traculoplasty (SLT) | Italy | 12 months | 23.18 ± 2.15 | 15.9 ± 2.49 | 7.3 mmHg 31% reduction from baseline | | Baseline: 2.48 ± 0.92 |

**Supplementary Table 3:** Abstracts identified for XEN in grey literature searches.

| Reference | Study | Safety outcomes | Efficacy outcomes |
|---|---|---|---|
| **American Society of Cataract and Refractive Surgery/American Society of Ophthalmic Administrators ASCRS – ASOA Symposium & Congress** | | | |
| (Lewis and Reitsamer, 2016) | Prospective, non-randomized, multicentre evaluation of safety and efficacy of XEN in combination with cataract surgery and pre-operative mitomycin C in reducing IOP and anti-glaucoma medications in 70 glaucoma patients over 12 months. | No serious adverse events were reported. One patient was converted to a tube shunt at 4 months. The most common ocular AE was hyphaema which occurred in four (5.7%) patients. | The mean pre-operative (best medicated) IOP was 21.2 mmHg, which was reduced by 38% to 13.0 mmHg at 12 months. Patient were on a mean of 2.4 drops at baseline, which was reduced by 70%, to 0.7 drops, at 12 months. Six (6.8%) patients were needled post-operatively for fibrosis. Of the patients needled, post-needling IOP was 13.9 mmHg. No infection, migration or erosion occurred in any patients. |
| (M Lenzhofer et al., 2016) | Prospective, non-randomized, multicentre evaluation 4-year follow-up to assess long-term clinical outcomes after XEN implantation in 66 eyes, of which 39 eyes reached 4-year follow-up. | N/R | Mean best-medicated baseline IOP was 22.3 ±4.1 mmHg and decreased significantly to 13.5 ±3.0 mmHg 4 years post-operative ($n$=39, $p$<0.001), what corresponds to a -39% reduction of IOP in long-term follow-up. Mean number of IOP-lowering medications decreased significantly from 2.5 ±1.3 pre-operative to 1.1 ±1.3 (-56%, $p$<0.001) post-operative ($n$=39). Visual field mean deviation showed no significant change between pre-operative and post-operative examinations. 11/66 patients (17%) were lost to follow-up and 16/66 patients (24%) had to be excluded from 4-year analysis because of secondary IOP lowering procedures (1 SLT, 12 filtering surgeries, and 3 cyclodestructive procedures). |
| (Markus Lenzhofer et al., 2016) | Prospective, non-randomized trial aimed at showing changes of bleb morphology as characterized by AS-OCT after XEN implantation. Data from 67 patients (72 eyes) collected pre-operatively and at 1, 2 weeks and 1, 3, 6, 9 and 12 months post-operatively. | N/R | Blebs were present in 65.7% of the eyes at 1 week, decreasing to 53.5% at 1 month and rising to 82.2% at 12 months. In AS-OCT 21.5% of the eyes had bleb wall thickening at 1 week, 4.8% at 1 month, and 33.3% at 12 months post-operative. In the categorization, we detected mainly uniform bleb morphology (43.3% at 1 week, 63.8% at 2 weeks, 66.7% at 1 month, 48.2% at 12 months). Present data show more uniform bleb morphology after XEN glaucoma surgery. This may be explained by lower intraoperative trauma and good tissue compatibility of the XEN implant. |
| (Reitsamer et al., 2015) | Prospective, non-randomized, multicentre trial with over 500 eyes implanted with XEN and followed up for 36 months. Patients had mild, moderate, severe or refractory glaucoma, and 54% were solo procedures, and 46% were combined with cataract surgery. | N/R | Mean pre-operative (best-medicated) IOP for all eyes was 21.9 ± 4.2 mmHg. The mean post-operative IOPs were: 15.7 at 12 months (-29% reduction; $n$=175), 15.0 at 24 months (-32% reduction; $n$=68) and 13.2 at 36 months (-40% reduction; $n$=28). At 12 months, anti-glaucomatous medications were reduced by 74% from the pre-operative mean of 2.7 (patients not washed out pre-surgery), by 77% at 24 months and by 74% at 36 months. Although follow-up continues, to date 23 or 4% were converted to another procedure at 12 months, 27 or 5% at 24 months and 30 or 5% at 36 months. The results of solo and combined procedures were not significantly different. |
| (Sheybani and | Prospective, non-randomized, | N/R | The mean pre-operative IOP was 20.8 + 4.6 mmHg. The mean post- |

| Reference | Study | Safety outcomes | Efficacy outcomes |
|---|---|---|---|
| Ahmed, 2015) | multicentre trial of 31 eyes with glaucoma receiving XEN in combination with cataract surgery and mitomycin C. | | operative IOPs were: 14.4 + 4.9 mmHg at 6 months and 13.1 + 3.6 mmHg at 12 months ($p$<0.001). Mean number of pre-operative medications was 2.7 + 1. Number of medications at 12 months was reduced to 0.9 + 1.1 ($p$<0.001). There were no complications. |
| (Grover, 2015) | Prospective, non-randomized, multicentre trial to establish safety and efficacy of XEN implantation in combination with mitomycin C in reducing IOP and glaucoma medications in 79 glaucoma patients over 12 months. | No major adverse events were reported | The mean pre-operative (best medicated) IOP was 22.7 mmHg. The mean post-operative IOPs were: 14.4 at 6 months, 14.3 at 9 months, and 13.4 at 12 months. The mean decrease in IOP was -8.4 (37% reduction) at 6 months, -8.4 mmHg (37% reduction) at 9 months, and -9.3 (41% reduction) at 12 months. At 6, 9, and 12 month visits anti-glaucomatous medications were reduced by 64% from the pre-operative mean of 3.3 (patients not washed out pre-surgery). |
| **European Society of Cataract and Refractive Surgeons - ESCRS** | | | |
| (Reitsamer, 2014) | Prospective, non-randomized, multicentre evaluation to establish the safety and efficacy of a minimally invasive *ab interno* gelatin stent[1] in combination with a pre-operative mitomycin C injection in reducing IOP and glaucoma medications in patients presenting with glaucoma. Mean IOP, IOP change, reduction in medications, and safety were recorded in 74 subjects through 9 months at the time of this abstract. | No major adverse events were reported, and no patients were converted to another surgical glaucoma procedure through 9 months. | The mean pre-operative (best medicated) IOP was 22.3 mmHg ±4.6 mmHg (patients not washed out pre-surgery). The mean post-operative IOPs were: 15.5 mmHg ±4.9 mmHg at 3 months, 14.9 mmHg ±4.7 at 6 months and 14.7 mmHg ±5.0 at 9 months. The mean decrease in IOP was -7.5 (-30% reduction) at 3 months, -8.3 mmHg (-33% reduction) at 6 months and -10.0 (-39% reduction) at 9 months. The pre-operative mean of anti-glaucomatous medications the patients were on was 3.2 ±1.1. At 3 months patient's medications average was 0.5 ±0.3, at 6 months 1.0 ±0.2 and at 9 months 0.8 ±0.2. Early results of the procedure indicate a statistically significant decrease in IOP. |
| (Rekas et al., 2014) | Prospective evaluation to establish the safety and efficacy of the minimally-invasive *ab interno* subconjunctival implant in reducing IOP in mild, moderate and severe open-angle glaucoma patients. 107 subjects from 13 surgeons were followed for two years, and their outcomes for mean IOP, IOP change, reduction in medications and safety were recorded. | No major adverse events were reported, and only 6% (7 eyes) had another surgical glaucoma procedure by 24 months. | The mean pre-operative (best medicated) IOP was 21.8 mmHg. The mean post-operative IOPs were: 15.9 at 12 months, 15.1 at 18 months, and 14.2 at 24 months. The mean decrease in IOP was -5.9 (-27% reduction) at 12 months, -6.8 (-31% reduction) at 18 months and -7.6 mmHg (-35% reduction) at 24 months. At 12 and 18 months, anti-glaucomatous medications were reduced by 64% from the pre-operative median of 2.8 (patients not washed out pre-surgery), and by 57% at 24 months. |
| (Reitsamer, 2013) | Prospective evaluation to establish the safety and efficacy of the minimally-invasive ab-interno subconjunctival implant in reducing IOP in mild, moderate and severe open-angle glaucoma patients. 121 subjects from 18 surgeons were followed for two years, and their outcomes for mean IOP, IOP change, reduction in medications and safety were recorded | No major adverse events were reported, and only 6% (7 eyes) had another surgical glaucoma procedure by 24 months. | The mean pre-operative (best medicated) IOP was 21.9 ±3.4 mmHg. The mean post-operative IOPs were: 15.5 ±3.4 at 12 months, 14.0 ±3.4 at 18 months and 14.6 ±3.1 at 24 months. The mean decrease in IOP was -6.5 (-28% reduction) at 12 months, -8.2 (-35% reduction) at 18 months and -7.8 mmHg (-33% reduction) at 24 months. At 12 and 18 months, anti-glaucomatous medications were reduced by >65% from the pre-operative median of 2.7 ±1.3 (patients not washed out pre-surgery), and by >55% at 24 months. |

| Reference | Study | Safety outcomes | Efficacy outcomes |
|---|---|---|---|
| (Kersten-Gomez and Dick, 2012) | Prospective, open-label clinical study to evaluate the safety and effectiveness of the minimally-invasive aquecentesis procedure in reducing intraocular pressure in patients with glaucoma. 15 glaucoma patients with poorly controlled IOP between 18 and 33 mmHg were included in this prospective study. The surgery was performed as the primary procedure, or in combination with cataract surgery. | N/R | The mean pre-operative IOP of all our patients was 21.3 mmHg compared to the mean IOP in mmHg at post-operative intervals which were: 12.2 at week 1, 15.0 at month 1, 15.2 at 6 months and 15.3 at 12 months. The mean decrease in IOP was -9.1 (-42 % drop) at week 1, -6.3 (-28% drop) at month 1, -6.5 (-30% drop) at month 6 and -6.3 (-29% drop) at month 12. The medications were reduced from 2 eye drops (mean) pre-operatively to 0.7 eye drops post-operatively. |
| **European Glaucoma Society - EGS** | | | |
| (Arciniegas-Perasso et al., 2014) | Prospective study describing 19 patients receiving XEN implantation. Glaucoma patients with mild and moderate damage were eligible for surgery with XEN alone or XEN + cataract surgery. | N/R | 21% (4/19) males and 79% (15/19) females underwent surgery. Mean age was 72.21 years. 58% (11/19) had XEN implant only and 42% (8/19) had XEN implant and cataract surgery. The implant was successfully deployed in 95% (18/19) of the patients. Median initial reduction of IOP in successfully deployed implants (18/19) was 37%. Most of the implants were located at the ciliary body band and developed a diffuse bleb. |

N/R, not reported. [1]Abstract did not mention product name or manufacturer, but description maps to XEN

**Supplementary Table 3:** Sources used for the grey literature review.

| Sources for grey literature searches |
|---|
| • Association for Research in Vision and Ophthalmology<br>• World Ophthalmology Congress (International Council of Ophthalmology)<br>• Annual Meeting of American Academy of Ophthalmology<br>• European Congress of Ophthalmology (European Society of Ophthalmology)<br>• Royal College of Ophthalmologists Annual Congress<br>• European Glaucoma Society<br>• Annual Meeting of American Glaucoma Society<br>• BMJ Ophthalmology<br>• American Society of cataract and refractive surgery |