**S1 Table. Risk of bias summary for Randomized Clinical Trials (RCTs): review authors’ judgements about each risk of bias item for each included study.**

|  |  |  |
| --- | --- | --- |
| **BABIGHIAN 2010**6 |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "The randomization schedule and sequential numbering was generated using SAS version 8.2 (SAS Institute, Cary, NC, USA) program and stored in a locked cabinet." |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: randomization schedule and sequential numbering generator were stored in a locked cabinet.  |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | LOW | QUOTE: “Authors evaluating the patients at each follow-up were blinded to whether the patient had undergone ELT or SLT .” |
| INCOMPLETE OUTCOME DATA(ATTRITION BIAS) | LOW | COMMENT: no missing outcome data |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: No study protocol is mentioned. However, all outcomes stated in the methods are reported in the results  |
| OTHER BIAS | LOW | COMMENT: no conflict of interest declared |
|  |  |  |
| **CRAVEN 2012**8 (S=data from Samuelson 201127, C=data from Craven 2012) |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "He/she was assigned treatment according to a computer-generated randomization schedule (PROC PLAN, PC-SAS, SAS Inc., Cary NC) and scheduled for surgery" (S) |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | LOW | QUOTE: "Although the procedure was not masked, there is no way to see or identify the iStent at the slit lamp without gonioscopy; thus, the examiner was unable to tell to which group the patient belonged at the time of tonometry” (S) “IOP was measured via applanation tonometry using a 2-person method in which 1 person performed the mesurement and 1 person recorded the value" (C) |
| INCOMPLETE OUTCOME DATA(ATTRITION BIAS) | LOW | QUOTE: "Of the 5 subjects not examined at 12 months [...] in each case was deemed by the investigator to be unrelated to the treatment." (S)COMMENT: reasons for missing data unlikely to be related to true outcome |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results |
| OTHER BIAS | UNCLEAR | COMMENT: funded by device industry, all authors affiliated with industry  |
|  |  |  |
| **FEA 2014**11 |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | UNCLEAR | COMMENT: insufficient information about the sequence generation |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: insufficient information |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | LOW | QUOTE: "It was not a masked study. These limitations are highly unlikely to have altered the findings that two iStent inject devices provide comparable benefits to combination medical therapy for OAG subjects" |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | UNCLEAR | COMMENT: insufficient information |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results |
| OTHER BIAS | UNCLEAR | COMMENT: funded by device industry, all authors affiliated with industry |
|  |  |  |
| **FEA 2015**12 (F1=data from Fea 2015, F2=data from Fea 201010) |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "Patient randomization was generated with a 2:1 ratio using Stata data analysis and statistical software (version 10, StataCorp LP)." (F2) |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | UNCLEAR | QUOTE: "Patients were masked to their assignment, as were staff members who measured IOP throughout the study." (F2) COMMENT: defined as open-label study |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | HIGH | COMMENT: imbalance in number for missing data (16.7% versus 41.7%) |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results |
| OTHER BIAS | LOW | COMMENT: no conflict of interest declared |
|  |  |  |
| **FERNÁNDEZ-BARRIENTOS 2010**14 |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "Eliglible patients were randomly assigned to one of the two treatment groups with a computer-generated sequence" |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | UNCLEAR | QUOTE: "All postoperative evaluations, except for the gonioscopies/goniophotographs (JMC), were performed by the same examiner (YFB), who was masked to the type of surgery performed. " COMMENT: defined as open-label study  |
| INCOMPLETE OUTCOME DATA(ATTRITION BIAS) | LOW | COMMENT: no missing outcome data on IOP and number of medications |
| SELECTIVE REPORTING (REPORTING BIAS) | UNCLEAR | COMMENT: a study protocol is present but somehow differs from the reported study; in particular, flouorophotometry (reported as a principal objective in the study, was not mentioned in the protocol). Outcomes about adverse events incomplete  |
| OTHER BIAS | UNCLEAR | COMMENT: funded by device industry, all authors affiliated with industry |
|  |  |  |
| **KATZ 2015**18 |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "Randomization treatment assignments were generated using a pseudorandom number generator" |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | HIGH | QUOTE: "Lack of masking to the study-treatment groups" |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | LOW | QUOTE: "Analyses of mean IOP at each postoperative exam were conducted on the number of available eyes at each exam that had not undergone secondary surgical interventions that might confound results.COMMENT: reasons for missing outcome data unlikely to be related to true outcome. |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the protocol are reported in the results, although postoperative CCT not reported |
| OTHER BIAS | UNCLEAR | COMMENT: funded by device industry, all authors affiliated with industry |
|  |  |  |
| **PFEIFFER 2015**26 |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | LOW | QUOTE: "Patients […] were assigned randomly in a 1:1 ratio according to a computer-generated listing." |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | LOW | QUOTE: "Listing was made just before surgery to undergo either combined or CS alone surgery" |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | LOW | QUOTE: "The tonometry protocol used a 2-person system (an observer and a reader)”. COMMENT: Only patients were masked to treatment. However, IOP was measured as described above and the non-blinding of others unlikely to introduce bias. |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | LOW | COMMENT: by the end of the study, 2 patients in Hydrus and CS group and 5 patients in the CS group were lost to follow up. Reasons were not health-related and unlikely to be related to true outcome |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results |
| OTHER BIAS | UNCLEAR | COMMENT: funded by device industry, all authors affiliated with industry |
|  |  |  |
| **VOLD 201631 (CyPass)** |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | UNCLEAR | COMMENT: insufficient information about the sequence generation |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: Not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | LOW | QUOTE: subjects did remain masked to treatment group throughout follow-up, and IOPs were recorded by masked technicians  |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | UNCLEAR | COMMENT: insufficient information on patients at 24-months follow-up |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results |
| OTHER BIAS | UNCLEAR | COMMENT: Financial support received by some authors |
|  |  |  |
| **VOLD 201632 (iStent)** |  |  |
| **Bias** | **Authors' judgement** | **Support for judgement** |
| RANDOM SEQUENCE GENERATION (SELECTION BIAS) | UNCLEAR | COMMENT: insufficient information  |
| ALLOCATION CONCEALMENT (SELECTION BIAS) | UNCLEAR | COMMENT: Not reported |
| BLINDING OF PARTICIPANTS, PERSONNNEL AND OUTCOME ASSESSORS (PERFORMANCE AND DETECTION BIAS) | HIGH | COMMENT: Open label study  |
| INCOMPLETE OUTCOME DATA (ATTRITION BIAS) | UNCLEAR | COMMENT: Almost all (2-Stent: 53, Travoprost: 47) patients followed at 12 months; 34 and 33 patients followed at 36 months but causes of missingness not reported |
| SELECTIVE REPORTING (REPORTING BIAS) | LOW | COMMENT: a study protocol is present. All outcomes stated in the methods are reported in the results. |
| OTHER BIAS | UNCLEAR | COMMENT: Financial support received by some authors |