Supplemental Table S1: Search strategy for studies assessing of the efficacy of intravitreal dexamethasone implant and anti-VEGF drugs in the treatment of RVO induced macular edema.

| Database | Search period | Serch Terms |
|---|---|---|
| Medline | Inception to December 10, 2019 | 1. Macular Edema<br>2. Edema, Macular<br>3. Dexamethasone Intravitreal Implant<br>4. Intravitreal Dexamethasone Implant<br>5. Implantable Dexamethasone<br>6. Ozurdex<br>7. Slow-release Dexamethasone<br>8. anti-VEGF<br>9. anti-vascular endothelial growth factor agents<br>10. vascular endothelial growth factor inhibitor<br>11. Ranibizumab<br>12. Bevacizumab<br>13. Aflibercept<br>14. 1 or 2<br>15. 3 or 4 or 5 or 6 or 7<br>16. 8 or 9 or 10 or 11 or 12 or 13<br>17. 14 and 15 and 16 |

Note：the search strategy was also repeated in the Cochrane Library

**Supplmental Table S2: PICO framework of the search strategy.**

| **PICO framework defined in the present systematic review and meta-analysis** | | | |
|---|---|---|---|
| **Participants** | **Interventions** | **Comparators** | **Outcomes** |
| Macular Edema, not restricted by retinal vein occlusion (RVO) | Dexamethasone Intravitreal Implant | anti-VEGF agents which including Ranibizumab, Bevacizumab, Aflibercep | Best corrected visual acuity (BCVA), central subfield thickness (CST) |

Note: In the practical developing of the search strategy framework, we did not restrict the search with keywords as “retinal vein occlusion” and the interested outcomes, so that more literature could be searched for inclusion review.

Supplemental Table S3: PRISMA 2009 Checklist

| Section/topic | # | Checklist item | Reported on page # |
|---|---|---|---|
| **TITLE** | | | |
| Title | 1 | Identify the report as a systematic review, meta-analysis, or both. | 1 |
| **ABSTRACT** | | | |
| Structured summary | 2 | Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number. | 2 |
| **INTRODUCTION** | | | |
| Rationale | 3 | Describe the rationale for the review in the context of what is already known. | 3 |
| Objectives | 4 | Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS). | 4 |
| **METHODS** | | | |
| Protocol and registration | 5 | Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. | NA |
| Eligibility criteria | 6 | Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale. | 5-6 |
| Information sources | 7 | Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched. | 5 |
| Search | 8 | Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated. | 5 |

| | | | |
|---|---|---|---|
| Study selection | 9 | State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis). | 5 |
| Data collection process | 10 | Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators. | 6 |
| Data items | 11 | List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made. | 6 |
| Risk of bias in individual studies | 12 | Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis. | 7 |
| Summary measures | 13 | State the principal summary measures (e.g., risk ratio, difference in means). | 6 |
| Synthesis of results | 14 | Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., $I^2$) for each meta-analysis. | 7 |



| Section/topic | # | Checklist item | Reported on page # |
|---|---|---|---|
| Risk of bias across studies | 15 | Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies). | 7 |
| Additional analyses | 16 | Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified. | 7 |
| **RESULTS** | | | |
| Study selection | 17 | Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram. | 8 |

| | | | |
|---|---|---|---|
| Study characteristics | 18 | For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations. | 8-12 |
| Risk of bias within studies | 19 | Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12). | 8 and 12 |
| Results of individual studies | 20 | For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot. | 14-18 |
| Synthesis of results | 21 | Present results of each meta-analysis done, including confidence intervals and measures of consistency. | 12-13 |
| Risk of bias across studies | 22 | Present results of any assessment of risk of bias across studies (see Item 15). | 8 and 12 |
| Additional analysis | 23 | Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]). | Not applicable |
| **DISCUSSION** | | | |
| Summary of evidence | 24 | Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers). | 18-19 |
| Limitations | 25 | Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias). | 21 |
| Conclusions | 26 | Provide a general interpretation of the results in the context of other evidence, and implications for future research. | 19-20 |
| **FUNDING** | | | |
| Funding | 27 | Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review. | 22 |

*From:* Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

**Supplimental Table S4: RoB 2 Bias Assessment Tool for included RCTs.**

| | | | | | |
|---|---|---|---|---|---|
| **Unique ID** | COMO | **Study ID** | Bandello 2018 | **Assessor** | MS |
| **Ref or Label** | | **Aim** | assignment to intervention (the 'intention-to-treat' effect) | | |
| **Experimental** | Dexamethasone implant | **Comparator** | Ranibizumab | **Source** | Journal article(s) with results of the trial; Non-commercial trial registry record (e.g. ClinicalTrials.gov record) |
| **Outcome** | | **Results** | | **Weight** | 1 |

| **Domain** | **Signalling question** | **Response** | **Comments** |
|---|---|---|---|
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | PY | Randomized allocation described in ClinicalTrail.gov. Subjects were randomized 1:1 to treatment with DEX implant or intravitreal ranibizumab and stratified based on the pre-enrollment BCVA. |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | PY | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | NI | |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to deviations from intended interventions** | 2.1.Were participants aware of their assigned intervention during the trial? | N | single masking to outcomes assessor, open-label trail |
| | 2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | Y | |
| | 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? | NI | no information |
| | 2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome? | NA | |
| | 2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced | NA | |

| | | | |
|---|---|---|---|
| | between groups? | | |
| | 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? | NI | no information |
| | 2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? | NI | no information |
| | **Risk of bias judgement** | **High** | open label. |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all, participants randomized? | PY | 303/307 |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data? | NA | |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | N | outcomes of BCVA and CMT were pre-specified. |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | PN | efficacy outcomes were assessed independently. No evidence showed additional visits, or any diagnostic detection bias. |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | N | all ocular assessments were carried out by the evaluating physician who was masked to the treatment assignment. |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in selection of** | 5.1 Were the data that produced this result analysed in accordance with a | NI | no information |

| | | | |
|---|---|---|---|
| **the reported result** | pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | | |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | 5.3 ... multiple eligible analyses of the data? | NI | there is only one possible way in which the outcome measurement can be analysed. |
| | **Risk of bias judgement** | **Some concerns** | |
| **Overall bias** | **Risk of bias judgement** | **Some concerns** | |

| | | | | | |
|---|---|---|---|---|---|
| **Unique ID** | COMRADE-B | **Study ID** | Hattenbach 2017 | **Assessor** | MS |
| **Ref or Label** | | **Aim** | assignment to intervention (the 'intention-to-treat' effect) | | |
| **Experimental** | Dexamethasone implant | **Comparator** | Ranibizumab | **Source** | Journal article(s) with results of the trial;<br>Non-commercial trial registry record (e.g. ClinicalTrials.gov record) |
| **Outcome** | | **Results** | | **Weight** | 1 |
| **Domain** | **Signalling question** | | | **Response** | **Comments** |
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | | | Y | A randomization list was produced using a validated system taht randomly assigned the treatment arms to randomization numbers in the specified ratio.<br><br>all ocular assessments were carried out by the evaluating |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | | | PY | |

| | | | |
|---|---|---|---|
| | | | physician who was masked to the treatment assignment. Detail is rarely provided in reports. |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | N | Baseline patient demographics and ocular and disease characteristics were comparable. No imbalances are apparent. |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to deviations from intended interventions** | 2.1.Were participants aware of their assigned intervention during the trial? | N | Double masking to participant and investigator. both groups recieved sham injection. randomized allocation was also concealed. |
| | 2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | N | |
| | 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? | NA | |
| | 2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome? | NA | |
| | 2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups? | NA | |
| | 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? | PY | the efficacy and safety analyses were performed on the FAS (LOCF approach) and the safety set. and the paper report sensitivity analysis performed using the "as-documented" approach (observed values only, without imputation) confirmed the results observed with the primary analysis. |
| | 2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? | NA | |
| | **Risk of bias judgement** | **Some concerns** | |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all, participants randomized? | PN | Ranibizumab group: 115/126, Dexamethasone group: 100/118 |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data? | PY | sensitivity analysis performed using the "as-documented" approach (observed values only, without imputation) confirmed |

| | | | |
|---|---|---|---|
| | | | the results observed with the primary analysis. |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | N | outcomes of BCVA and CMT were pre-specified. |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | PN | efficacy outcomes were assessed independently. No evidence showed additional visits, or any diagnostic detection bias. |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | N | all ocular assessments were carried out by the evaluating physician who was masked to the treatment assignment. |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | NI | We choose ETDRS-like VA testing chart and OCT-based CRT as eligible outcomes for inclusion in our meta-analysis. this study reported them, so there would not be an issue of selection. |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | 5.3 ... multiple eligible analyses of the data? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | **Risk of bias judgement** | **Low** | |
| **Overall bias** | **Risk of bias judgement** | **Low** | |

| | | | | | |
|---|---|---|---|---|---|
| **Unique ID** | COMRADE-C | **Study ID** | COMRADE-C | **Assessor** | MS |
| **Ref or Label** | | **Aim** | assignment to intervention (the 'intention-to-treat' effect) | | |
| **Experimental** | Dexamethasone implant | **Comparator** | Ranibizumab | **Source** | Journal article(s) with results of the trial; Non-commercial trial registry record (e.g. ClinicalTrials.gov record) |
| **Outcome** | | **Results** | | **Weight** | 1 |

| **Domain** | **Signalling question** | **Response** | **Comments** |
|---|---|---|---|
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | Y | A randomization list was produced using a validated system taht randomly assigned the treatment arms to randomization numbers in the specified ratio.<br><br>all ocular assessments were carried out by the evaluating physician who was masked to the treatment assignment. |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | PY | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | N | Baseline patient demographics and ocular and disease characteristics were comparable. No imbalances are apparent. |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to deviations from intended interventions** | 2.1.Were participants aware of their assigned intervention during the trial? | N | Double masking to participant and investigator. both groups recieved sham injection. randomized allocation was also concealed. |
| | 2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | N | |
| | 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention | NA | |

| | | | |
|---|---|---|---|
| | that arose because of the experimental context? | | |
| | 2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome? | NA | |
| | 2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups? | NA | |
| | 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? | PY | Primary analysis was performed on the full analysis set (FAS) that comprised all the patients. |
| | 2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to missing outcome data** | 3.1 Were data for this outcome available for all, or nearly all, participants randomized? | PN | study completion rate in Dexamethasone group is 72/119 (60.5%) |
| | 3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data? | PN | sensitivity analysis revealed consistent results for the MRMM, as well as the as-observed analyses compared to the primary LOCF approach. however, sensitivity analysis on the PPS(as observed) yielded a lower difference in the mean average change in BCVA as compared to the primary result, which may in part result from the low sample size in the PPS. |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | PY | A greater number of patients dropped out from the dexamethasone group because of AEs aor unsatisfactory therapeutic effect (23.5%) |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | PY | |
| | **Risk of bias judgement** | **High** | drop out rate was relatively high in Dex arm |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | N | outcomes of BCVA and CMT were pre-specified. |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | PN | efficacy outcomes were assessed independently. No evidence showed additional visits, or any diagnostic detection bias. |
| | 4.3 Were outcome assessors aware of the intervention received by study | N | all ocular assessments were carried out by the evaluating |

| | | | |
|---|---|---|---|
| | participants? | | physician who was masked to the treatment assignment. |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | NI | We choose ETDRS-like VA testing chart and OCT-based CRT as eligible outcomes for inclusion in our meta-analysis. this study reported them, so there would not be an issue of selection. |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | 5.3 ... multiple eligible analyses of the data? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | **Risk of bias judgement** | **Low** | |
| **Overall bias** | **Risk of bias judgement** | **Some concerns** | |

| | | | | | |
|---|---|---|---|---|---|
| **Unique ID** | Gado et al | **Study ID** | Gado et al | **Assessor** | MS |
| **Ref or Label** | | **Aim** | assignment to intervention (the 'intention-to-treat' effect) | | |
| **Experimental** | Dexamethasone implant | **Comparator** | Bevacizumab | **Source** | Journal article(s) with results of the trial |
| **Outcome** | | **Results** | | **Weight** | 1 |

| Domain | Signalling question | Response | Comments |
|---|---|---|---|
| **Bias arising from the randomization process** | 1.1 Was the allocation sequence random? | Y | Patients were randomized using a computergenerated blocked randomization. Randomization was done at the day of the first injection by staff not involved in patient treatment or follow up. study patients were maskedto the treatment given. staff performing BCVA testing OCT, fudus photographs and angiographies were masked to the treatment group |
| | 1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions? | Y | |
| | 1.3 Did baseline differences between intervention groups suggest a problem with the randomization process? | N | There was no statistically significant difference between the two group in patients' demographics and baseline clinical features. |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to deviations from intended interventions** | 2.1.Were participants aware of their assigned intervention during the trial? | PN | study patients were masked to the treatment given. but they were not given a placebo or sham. |
| | 2.2.Were carers and people delivering the interventions aware of participants' assigned intervention during the trial? | PN | |
| | 2.3. If Y/PY/NI to 2.1 or 2.2: Were there deviations from the intended intervention that arose because of the experimental context? | NA | |
| | 2.4 If Y/PY to 2.3: Were these deviations likely to have affected the outcome? | NA | |
| | 2.5. If Y/PY/NI to 2.4: Were these deviations from intended intervention balanced between groups? | NA | |
| | 2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention? | PY | according to the report, it seems no participants lost follow-up. FAS was used to analysis the effects. |
| | 2.7 If N/PN/NI to 2.6: Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomized? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias due to missing outcome** | 3.1 Were data for this outcome available for all, or nearly all, participants randomized? | Y | the paper reported all participants. |

| | | | |
|---|---|---|---|
| **data** | 3.2 If N/PN/NI to 3.1: Is there evidence that result was not biased by missing outcome data? | NA | |
| | 3.3 If N/PN to 3.2: Could missingness in the outcome depend on its true value? | NA | |
| | 3.4 If Y/PY/NI to 3.3: Is it likely that missingness in the outcome depended on its true value? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in measurement of the outcome** | 4.1 Was the method of measuring the outcome inappropriate? | PN | pre-specified outcomes |
| | 4.2 Could measurement or ascertainment of the outcome have differed between intervention groups? | PN | The same methods of outcome measurement were used at the same time point |
| | 4.3 Were outcome assessors aware of the intervention received by study participants? | PN | Staff performing BCVA testing, OCT, Fundus photographs and angiographies were masked to the treatment garoup. |
| | 4.4 If Y/PY/NI to 4.3: Could assessment of the outcome have been influenced by knowledge of intervention received? | NA | |
| | 4.5 If Y/PY/NI to 4.4: Is it likely that assessment of the outcome was influenced by knowledge of intervention received? | NA | |
| | **Risk of bias judgement** | **Low** | |
| **Bias in selection of the reported result** | 5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalized before unblinded outcome data were available for analysis? | NI | no data |
| | 5.2 ... multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | 5.3 ... multiple eligible analyses of the data? | PN | there is only one possible way in which the outcome measurement can be analysed. |
| | **Risk of bias judgement** | **Some concerns** | |
| **Overall bias** | **Risk of bias judgement** | **Some concerns** | |

**Supplementary table S5：GRADE assessment of study quality.**

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No of studies | Design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Change of BCVA | Control | Relative (95% CI) | Absolute | | |
| **Change of BCVA - At 6-month (follow-up mean 6 months)** | | | | | | | | | | | | |
| 2 | randomised trials | no serious risk of bias[1] | serious[2,3] | no serious indirectness | no serious imprecision | none | 237 | 250 | - | MD 12.68 lower (21.98 to 3.37 lower) | ⊕⊕⊕O MODERATE | CRITICAL |
| **Change of BCVA - At 12-month (follow-up mean 12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,4,5] | no serious inconsistency | no serious indirectness | no serious imprecision[6] | none | 216 | 265 | - | MD 9.69 lower (12.01 to 7.37 lower) | ⊕⊕⊕O MODERATE | CRITICAL |
| **Change of BCVA - Baseline to month-end (AUC) (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,4] | no serious inconsistency[7] | no serious indirectness | no serious imprecision | none | 391 | 403 | - | MD 6.59 lower (8.97 to 4.22 lower) | ⊕⊕⊕O MODERATE | CRITICAL |

[1] Lost follow-up rate in DEX arm is high (39.5%),however the study give good ITT and sensitive analysis.

[2] Dexamethasone might be under-dosed as adminstrated only 1 injection in 6 months.

[3] the I2 is large

[4] COMO was an open label trail, lack of blinding

[5] the extension study of COMRADE-B and C was open-label

[6] outcome of BCVA in COMRADE-C was not precision enough.we chose to neglect this effect

[7] $I^2$ is moderate large (61%),while P value is 0.008, we choose to neglect this influence

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No of studies** | **Design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | **Change of CRT** | **Control** | **Relative (95% CI)** | **Absolute** | | |
| **Change of CRT - At 6-month (follow-up mean 6 months)** | | | | | | | | | | | | |
| 3 | randomised trials | no serious risk of bias[1] | serious[2,3] | no serious indirectness | no serious imprecision | none | 267 | 280 | - | MD 100.01 higher (25.53 lower to 225.56 higher) | ⊕⊕⊕O MODERATE | IMPORTANT |
| **Change of CRT - At 12-month (follow-up mean 12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,4,5] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 202 | 255 | - | MD 41.72 higher (5.03 to 78.4 higher) | ⊕⊕⊕O MODERATE | CRITICAL |

[1] Lost follow-up rate in DEX arm is high (39.5%),however the study give good ITT and sensitive analysis.

[2] Dexamethasone might be under-dosed as adminstrated only 1 injection in 6 months.

[3] the I2 is large

[4] COMO was an open label trail, lack of blinding

[5] the extension study of COMRADE-B and C was open-label

| Quality assessment | | | | | | | No of patients | | Effect | | Quality | Importance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **No of studies** | **Design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | **Safety** | **Control** | **Relative (95% CI)** | **Absolute** | | |
| **safety - Total of SAEs (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 37/390 (9.5%) | 33/400 (8.3%) | OR 1.16 (0.71 to 1.9) | 12 more per 1000 (from 22 fewer to 63 more) | ⊕⊕⊕O MODERATE | IMPORTANT |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 8.1% | | 12 more per 1000 (from 22 fewer to 62 more) | | |
| **safety - Total of other AEs (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 315/390 (80.8%) | 252/400 (63%) | OR 2.47 (1.78 to 3.42) | 178 more per 1000 (from 122 more to 223 more) | ⊕⊕⊕O MODERATE | IMPORTANT |
| | | | | | | | | 62.1% | | 181 more per 1000 (from 124 more to 228 more) | | |
| **safety - Elevated IOP** | | | | | | | | | | | | |
| 2 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | strong association[3] | 88/272 (32.4%) | 23/274 (8.4%) | OR 5.2 (3.16 to 8.55) | 239 more per 1000 (from 141 more to 355 more) | ⊕⊕⊕⊕ HIGH | IMPORTANT |
| | | | | | | | | 8.2% | | 235 more per 1000 (from 138 more to 351 more) | | |
| **safety - Ocular hypertension (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | serious[4] | strong association[3] | 21/390 (5.4%) | 1/400 (0.25%) | OR 11.83 (2.77 to 50.63) | 26 more per 1000 (from 4 more to 110 more) | ⊕⊕⊕O MODERATE | IMPORTANT |
| | | | | | | | | 0% | | - | | |
| **safety - Eye pain (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 34/390 (8.7%) | 33/400 (8.3%) | OR 1.07 (0.65 to 1.78) | 5 more per 1000 (from 27 fewer to 55 more) | ⊕⊕⊕O MODERATE | NOT IMPORTANT |
| | | | | | | | | 7.1% | | 5 more per 1000 (from 24 fewer to 49 more) | | |
| **safety - Vitreous floaters (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 23/390 (5.9%) | 17/400 (4.3%) | OR 1.4 (0.74 to 2.67) | 16 more per 1000 (from 11 fewer to 63 more) | ⊕⊕⊕O MODERATE | NOT IMPORTANT |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 4% | | 15 more per 1000 (from 10 fewer to 60 more) | | |
| **safety - Conjunctival hemorrhage (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | no serious imprecision | none | 56/390 (14.4%) | 45/400 (11.3%) | OR 1.32 (0.86 to 2) | 31 more per 1000 (from 14 fewer to 90 more) | ⊕⊕⊕O MODERATE | NOT IMPORTANT |
| | | | | | | | | 11.3% | | 31 more per 1000 (from 14 fewer to 90 more) | | |
| **safety - Cataract (follow-up 6-12 months)** | | | | | | | | | | | | |
| 3 | randomised trials | serious[1,2] | no serious inconsistency | no serious indirectness | serious[4] | strong association[3] | 18/390 (4.6%) | 3/400 (0.8%) | OR 5.61 (1.77 to 17.78) | 33 more per 1000 (from 6 more to 111 more) | ⊕⊕⊕O MODERATE | IMPORTANT |
| | | | | | | | | 0.8% | | 35 more per 1000 (from 6 more to 117 more) | | |

[1] COMO was an open label trail, lack of blinding

[2] Lost follow-up rate in DEX arm is high (39.5%),however the study give good ITT and sensitive analysis.

[3] Pooed RR is more than 2 and with no plausible confounders

[4] included trails showed imprecise 95% CI which includes both 1) no effect and 2)appreciable harm.