eTable 1. Search strategies

|  |
| --- |
| **PubMed** |
| 1. nasal polyps[MeSH Terms]2. ((((nasal polyp\*[Title/Abstract]) OR (nose polyp\*[Title/Abstract])) OR (nasi papilloma[Title/Abstract])) OR (nasal papilloma[Title/Abstract])) OR (nasi polyposis[Title/Abstract]) 3. #1 OR #24. sinusitis[MeSH Terms]5. ((((((CRSwNP[Title/Abstract]) OR (chronic rhinosinusitis[Title/Abstract])) OR (rhinopolyp\*[Title/Abstract])) OR (sinus Infection\*[Title/Abstract])) OR (sphenoid\* sinusitis[Title/Abstract])) OR (pansinusitis[Title/Abstract])) OR (rhinitis[Title/Abstract])6. #4 OR #57. #3 OR #68. dupilumab[Supplementary Concept] 9. (((dupilumab[Title/Abstract]) OR (Dupixent[Title/Abstract])) OR (Anti-IL-4Rα mAb[Title/Abstract])) OR (Anti-IL-4Rα monoclonal antibody[Title/Abstract])10. #8 OR #911. mepolizumab[Supplementary Concept]12. ((((mepolizumab[Title/Abstract]) OR (Bosatria[Title/Abstract])) OR (Nucala[Title/Abstract])) OR (Anti-IL-5 mAb[Title/Abstract])) OR (Anti-IL-5 monoclonal antibody[Title/Abstract])13. #11 OR #1214. omalizumab[MeSH Terms]15. (((Xolair[Title/Abstract]) OR (anti-IgE monoclonal antibody[Title/Abstract])) OR (anti-IgE mAb[Title/Abstract])) OR (anti-IgE antibody[Title/Abstract])16. #14 OR #1517. antibodies, monoclonal[MeSH Terms]18. (((((lebrikizumab[Title/Abstract]) OR (tralokinumab[Title/Abstract])) OR (anti-IL-13 monoclonal antibodies[Title/Abstract])) OR (anti-IL-13 mAb[Title/Abstract])) OR (reslizumab[Title/Abstract])) OR (benralizumab[Title/Abstract])19. #17 OR #1820. #10 OR #13 OR #16 OR #1921. #7 AND #20 |
| **Cochrane Library** |
| 1. MeSH descriptor: [Nasal Polyps] explode all trees2. (nasal polyp\*):ti,ab,kw OR (nose polyp\*):ti,ab,kw OR (nasi papilloma):ti,ab,kw OR (nasal papilloma):ti,ab,kw OR (nasi polyposis):ti,ab,kw (Word variations have been searched)3. #1 OR #24. MeSH descriptor: [Sinusitis] explode all trees5. (CRSwNP):ti,ab,kw OR (chronic rhinosinusitis):ti,ab,kw OR (rhinopolyp\*):ti,ab,kw OR (sinus Infection\*):ti,ab,kw OR (rhinitis):ti,ab,kw (Word variations have been searched)6. #4 OR #57. #3 OR #6 8. (dupilumab):ti,ab,kw OR (Dupixent):ti,ab,kw OR (Anti-IL-4Rα mAb):ti,ab,kw OR (Anti-IL-4Rα monoclonal antibody):ti,ab,kw (Word variations have been searched)9. (mepolizumab):ti,ab,kw OR (Bosatria):ti,ab,kw OR (Nucala):ti,ab,kw OR (Anti-IL-5 mAb):ti,ab,kw OR (Anti-IL-5 monoclonal antibody):ti,ab,kw (Word variations have been searched)10. MeSH descriptor: [Omalizumab] explode all trees 11. (Xolair):ti,ab,kw OR (anti-IgE monoclonal antibody):ti,ab,kw OR (anti-IgE mAb):ti,ab,kw OR (anti-IgE antibody):ti,ab,kw (Word variations have been searched)12. MeSH descriptor: [Antibodies, Monoclonal] explode all trees13. (lebrikizumab):ti,ab,kw OR (tralokinumab):ti,ab,kw OR (anti-IL-13 mAb):ti,ab,kw OR (reslizumab):ti,ab,kw OR (benralizumab):ti,ab,kw (Word variations have been searched)14. #8 OR #9 OR #10 OR #11 OR #12 OR #1315. #7 AND #14 |
| **Embase** |
| 1. 'nose polyp'/exp2. 'nasal polyp\*':ab,ti OR 'nose polyp\*':ab,ti OR 'nasi papilloma':ab,ti OR 'nasal papilloma':ab,ti OR 'nasi polyposis':ab,ti3. #1 OR #24. 'sinusitis'/exp5. crswnp:ab,ti OR 'chronic rhinosinusitis':ab,ti OR rhinopolyp\*:ab,ti OR 'sinus infection\*':ab,ti OR rhinitis:ab,ti OR 'sphenoid\* sinusitis':ab,ti6. #4 OR #57. 'dupilumab'/exp8. dupilumab:ab,ti OR dupixent:ab,ti OR 'anti-il-4rα mab':ab,ti OR 'anti-il-4rα monoclonal antibody':ab,ti 9. #7 OR #810. 'mepolizumab'/exp11. mepolizumab:ab,ti OR bosatria:ab,ti OR nucala:ab,ti OR 'anti-il-5 mab':ab,ti OR 'anti-il-5 monoclonal antibody':ab,ti12. #10 OR #11 13. 'omalizumab'/exp14. xolair:ab,ti OR 'anti-ige monoclonal antibody':ab,ti OR 'anti-ige mab':ab,ti OR 'anti-ige antibody':ab,ti15. #13 OR #1416. 'monoclonal antibody'/exp17. lebrikizumab:ab,ti OR tralokinumab:ab,ti OR 'anti-il-13 mab':ab,ti OR reslizumab:ab,ti OR 'benralizumab'/exp OR benralizumab18. #9 OR #12 OR #15 OR #16 OR #1719. #3 OR #620. #18 AND #1921. #20 AND [medline]/lim22. #20 NOT #21 |
| **Web of Science** |
| 1. TOPIC: (nasal polyp\*) OR TOPIC: (nose polyp\*) OR TOPIC: (nasi papilloma) OR TOPIC: (nasal papilloma) OR TOPIC: (nasi polyposis)2. TOPIC: (sinusitis) OR TOPIC: (CRSwNP) OR TOPIC: (chronic rhinosinusitis) OR TOPIC: (rhinopolyp\*) OR TOPIC: (sinus Infection\*) OR TOPIC: (rhinitis) OR TOPIC: (sphenoid\* sinusitis)3. #1 OR #24. TOPIC: (dupilumab) OR TOPIC: (Dupixent) OR TOPIC: (Anti-IL-4Rα mAb) OR TOPIC: (Anti-IL-4Rα monoclonal antibody)5. TOPIC: (mepolizumab) OR TOPIC: (Bosatria) OR TOPIC: (Nucala) OR TOPIC: (Anti-IL-5 mAb) OR TOPIC: (Anti-IL-5 monoclonal antibody)6. TOPIC: (omalizumab) OR TOPIC: (Xolair) OR TOPIC: (anti-IgE monoclonal antibody) OR TOPIC: (anti-IgE mAb) OR TOPIC: (anti-IgE antibody)7. TOPIC: (monoclonal antibody) OR TOPIC: (lebrikizumab) OR TOPIC: (tralokinumab) OR TOPIC: (anti-IL-13 mAb) OR TOPIC: (reslizumab) OR TOPIC: (benralizumab)8. #4 OR #5 OR #6 OR #7 9. #8 AND #3 |

eTable2. Summary of certainty of the evidence (GRADE)

|  |  |  |  |
| --- | --- | --- | --- |
| Comparison | Nature of the evidence | Certainty of the evidence  | Downgrading due to |
| Omalizumab *vs* Placebo | Direct | High | -\* |
| Dupilumab *vs* Placebo | Direct | High | - |
| Mepolizumab *vs* Placebo | Direct | High | - |
| Omalizumab *vs* Dupilumab | Indirect | Moderate | Imprecision |
| Omalizumab *vs* Mepolizumab | Indirect | Moderate | Imprecision |
| Dupilumab v*s* Mepolizumab | Indirect | Moderate | Imprecision |

GRADE, Grading of Recommendations Assessment, Development and Evaluation; \*, not available.

eTable3. Surface values under the cumulative ranking curve, PrBest and mean rank of all outcomes

|  |  |  |
| --- | --- | --- |
|  | Placebo | Intervention |
| Omalizumab | Dupilumab | Mepolizumab |
| **NPS** | SUCRA | 0.006 | 0.532 | 0.900 | 0.563 |
|  | PrBest | 0.000 | 0.087 | 0.750 | 0.164 |
|  | Mean rank | 4 | 2.4 | 1.3 | 2.3 |
| **SNOT-22** | SUCRA | 0.019 | 0.606 | 0.916 | 0.460 |
|  | PrBest | 0.000 | 0.083 | 0.768 | 0.149 |
|  | Mean rank | 3.9 | 2.2 | 1.3 | 2.6 |
| **UPSIT** | SUCRA | 0.000 | 0.500 | 1.000 | -\* |
|  | PrBest | 0.000 | 0.000 | 1.000 | - |
|  | Mean rank | 3 | 2 | 1.000 | - |
| **NCS** | SUCRA | 0.000 | 0.693 | 0.807 | - |
|  | PrBest | 0.000 | 0.386 | 0.614 | - |
|  | Mean rank | 3 | 1.6 | 1.4 | - |
| **Adverse events** | SUCRA | 0.731 | 0.263 | 0.259 | 0.747 |
|  | PrBest | 0.314 | 0.530 | 0.340 | 0.599 |
|  | Mean rank | 1.8 | 3.2 | 3.2 | 1.8 |

SUCRA, Surface values under the cumulative ranking curve; \*, not compared.

**Figure legends**

eFigure 1.A, ‘Risk of bias’ graph: review authors’ judgements about each risk of bias item presented as percentages across all included studies. B, ‘Risk of bias’ summary: review authors’ judgements about each risk of bias item for each included study.

eFigure 2. Pair-wise meta-analysis comparing (A) NPS (nasal polyp score), (B) SNOT-22 (sino-nasal outcome test-22), (C) UPSIT (University of Pennsylvania smell identification test), (D) NCS (nasal congestion score), and (E) Adverse events.



eFigure 1. A, ‘Risk of bias’ graph: review authors’ judgements about each risk of bias item presented as percentages across all included studies. B, ‘Risk of bias’ summary: review authors’ judgements about each risk of bias item for each included study.

****

eFigure 2. Pair-wise meta-analysis comparing (A) NPS (nasal polyp score), (B) SNOT-22 (sino-nasal outcome test-22), (C) UPSIT (University of Pennsylvania smell identification test), (D) NCS (nasal congestion score), and (E) Adverse events.