SUPPLEMENTARY TABLES AND FIGURES

Supplementary Table 1. Excluded Studies After Full Paper Revision and Reason for Exclusion

Reference	Reason for Exclusion
Straumann, A., Hoesli, S., Bussmann, C.h, Stuck, M., Perkins, M., Collins, L. P., Payton, M., Pettipher, R., Hunter, M., Steiner, J., & Simon, H. U. (2013). Anti-eosinophil activity and clinical efficacy of the CRTH2 antagonist OC000459 in eosinophilic esophagitis. *Allergy*, *68*(3), 375–385. https://doi.org/10.1111/all.12096	Did not report extractable data on endpoints of interest. No thresholds for histologic remission, only a change in eosinophil load. EREFS score not reported.
Dupilumab Improves Clinical and Histologic Aspects of Disease in Adult and Adolescent Patients With Eosinophilic Esophagitis at Week 24: Results from Part B of the 3-Part LIBERTY EoE TREET Study. Rothenberg M., Dellon E., Bredenoord A., Collins M., Hirano I., Chehade M., Lucendo A., Spergel J., Sun X., Hamilton J., Mujumdar U., McCann E., Mannent L., Akinlade B., Laws E., Amin N., Giannelou A., Patel K., Beazley B., Shabbir A. Journal of Allergy and Clinical Immunology. Conference: 2022 AAAAI Annual Meeting. Phoenix United States. 149(2 Supplement) (pp AB312), 2022. Date of Publication: February 2022.	Dual publication of an already included study.
Dupilumab efficacy and safety up to 52 weeks in adult and adolescent patients with eosinophilic esophagitis: Results from part a and c of a randomized, placebo-controlled, three-part, phase 3 liberty eoe treet study. Dellon E.S., Rothenberg M.E., Collins M.H., Hirano I., Chehade M., Bredenoord A.J., Lucendo A.J., Spergel J.M., Zhao Q., Hamilton J.D., Mujumdar U., Kamat S., Mannent L.P., Akinlade B., Laws E., Amin N., Shumel B., Rowe P.J., Deniz Y., Jacob-Nara J.A., Patel K., Maloney J., Casullo V.M. United European Gastroenterology Journal. Conference: 29th United European Gastroenterology Week. Virtual. 9(10) (pp 1204-1207), 2021. Date of Publication: December 2021.	Dual publication of an already included study.
Loss Of Histologic, Symptom And Endoscopic Efficacy Following Treatment Withdrawal In Patients With Eosinophilic Esophagitis: A Phase 3, Randomized Withdrawal Study Of Budesonide Oral Suspension. Dellon E.S., Collins M.H., Katzka D.A., Mukkada V.A., Falk G.W., Morey R., Goodwin B., Eisner J.D., Lan L., Desai N.K., Williams J., Hirano I. Gastroenterology. Conference: DDW 2021. Virtual, Online. 160(6 Supplement) (pp S-247-S-248), 2021. Date of Publication: May 2021.	Not a randomised controlled trial.

BUDESONIDE ORODISPERSIBLE TABLETS IMPROVE THE ESOPHAGEAL DISTENSIBILITY AFTER 6-WEEK TREATMENT IN ACTIVE EOSINOPHILIC ESOPHAGITIS: RESULTS FROM A SUBSET ANALYSIS OF THE RANDOMIZED, DOUBLE-BLIND, MULTICENTER, PLACEBO-CONTROLLED EOS-1 TRIAL. Lucendo A., Schlag C., Straumann A., Ortega G.J., Sanz-Garcia A., Santander C., Mueller R., Greinwald R., Attwood S.E. Gastroenterology. Conference: DDW 2021. Virtual, Online. 160(6 Supplement) (pp S-247), 2021. Date of Publication: May 2021.	Dual publication of an already included study.
Low Rates Of Glucocorticoid-Related Adverse Effects With Long-Term Treatment Of Eosinophilic Esophagitis With Fluticasone Propionate Orally Disintegrating Tablet (Apt-1011): Results From 52 Weeks Of Exposure In A Phase 2b Trial. Dellon E.S., Falk G.W., Lucendo A., Schlag C., Schoepfer A.M., Eagle G., Nezamis J.P., Comer G.M., Knoop K., Hirano I. Gastroenterology. Conference: DDW 2021. Virtual, Online. 160(6 Supplement) (pp S-248-S-249), 2021. Date of Publication: May 2021.	Dual publication of an already included study.
FLUTICASONE PROPIONATE ORALLY DISINTEGRATING TABLET (APT-1011) IMPROVES HISTOLOGIC, ENDOSCOPIC AND SYMPTOMATIC RESPONSES IN EOSINOPHILIC ESOPHAGITIS PATIENTS WITH FIBRO-STENOTIC FEATURES: RESULTS FROM A PHASE 2B TRIAL. Dellon E.S., Falk G.W., Lucendo A., Schlag C., Schoepfer A.M., Eagle G., Nezamis J.P., Comer G.M., Knoop K. Gastroenterology. Conference: DDW 2021. Virtual, Online. 160(6 Supplement) (pp S-111-S-112), 2021. Date of Publication: May 2021.	Dual publication of an already included study.
Dellon, E. S., Collins, M. H., Katzka, D. A., Mukkada, V. A., Falk, G. W., Morey, R., Goodwin, B., Eisner, J. D., Lan, L., Desai, N. K., Williams, J., Hirano, I., & ORBIT2/SHP621-302 Investigators (2022). Long-Term Treatment of Eosinophilic Esophagitis With Budesonide Oral Suspension. Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association, 20(7), 1488–1498.e11. https://doi.org/10.1016/j.cgh.2021.06.020	Maintenance of remission study.
Patient-reported symptom improvement following treatment with APT-1011 in patients with eosinophilic esophagitis as measured by the prose: Results from flute, a phase 2b clinical trial. Turner R., Rohay J.M., Sparling N., Whitsett J., Eagle G., Nezamis J., Knoop K., Dellon E.S., Hirano I., Paty J. American Journal of Gastroenterology. Conference: Annual Scientific Meeting of the American College of Gastroenterology, ACG 2021. Las Vegas, NV United States. 116(SUPPL) (pp S203), 2021. Date of Publication: October 2021.	Dual publication of an already included study

Pl02.05 long-term treatment of patients with eosinophilic gastritis and/or eosinophilic duodenitis with lirentelimab, a monoclonal antibody against siglec-8. Peterson K., Chehade M., Murray J., Falk G., Gonsalves N., Genta R., Rothenberg M., Bledsoe A., Durrani S., Vaezi M., Shaw C., Rasmussen H., Singh B., Chang A., Kamboj A., Hirano I., Dellon E. Diseases of the Esophagus. Conference: 17th ISDE World Congress for Esophageal Diseases. Virtual. 34(SUPPL 1) (pp 47-48), 2021. Date of Publication: September 2021.	Not the disease of interest.
Budesonide orodispersible tablets maintain remission in a randomized, placebo-controlled trial of patients with eosinophilic esophagitis. Straumann A., Lucendo A.J., Biedermann L., Hruz P., Mueller R., Greinwald R., Schoepfer A., Attwood S. Swiss Medical Weekly. Conference: Annual Meeting of the Swiss Society of Gastroenterology, SGG-SSG, Swiss Visceral Surgeons, SGVC-SSCV, Swiss Association for the Study of the Liver, SASL and Swiss Society of Endoscopy Nurses and Associates, SVEP-ASPE. Interlaken Switzerland. 151(SUPPL 253) (pp 2S), 2021. Date of Publication: 2021.	Maintenance of remission study.
Straumann, A., Lucendo, A. J., Miehlke, S., Vieth, M., Schlag, C., Biedermann, L., Vaquero, C. S., Ciriza de Los Rios, C., Schmoecker, C., Madisch, A., Hruz, P., Hayat, J., von Arnim, U., Bredenoord, A. J., Schubert, S., Mueller, R., Greinwald, R., Schoepfer, A., Attwood, S., & International EOS-2 Study Group (2020). Budesonide Orodispersible Tablets Maintain Remission in a Randomized, Placebo-Controlled Trial of Patients With Eosinophilic Esophagitis. Gastroenterology, 159(5), 1672–1685.e5. https://doi.org/10.1053/j.gastro.2020.07.039	Maintenance of remission study.
Dupilumab Improves Health-Related Quality of Life (HRQoL) and Reduces Symptom Burden in Patients with Eosinophilic Esophagitis (EoE): Results From Part A of a Randomized, Placebo-Controlled Three-Part Phase 3 Study. Dellon E., Rothenberg M., Hirano I., Chehade M., Bredenoord A.J., Spergel J., Zhao Q., Beazley B., Guillemin I., Mannent L., Laws E., Amin N., Shumel B., Maloney J., Kamat S. Journal of Allergy and Clinical Immunology. Conference: 2021 AAAAI Virtual Annual Meeting. Virtual, Online. 147(2 Supplement) (pp AB91), 2021. Date of Publication: February 2021.	Dual publication of an already included study
Collins, M. H., Dellon, E. S., Katzka, D. A., Hirano, I., Williams, J., & Lan, L. (2019). Budesonide Oral Suspension Significantly Improves Eosinophilic Esophagitis Histology Scoring System Results: Analyses From a 12-Week, Phase 2, Randomized, Placebo-controlled Trial. The American journal of surgical pathology, 43(11), 1501–1509. https://doi.org/10.1097/PAS.0000000000001361	Dual publication and sub-analysis of an already included study. No outcome of interest
Improved Histopathologic Features in Patients with Eosinophilic Esophagitis: Results and Analyses from a Phase 3, Randomized, Placebo-Controlled Trial of Budesonide Oral Suspension. Collins M.H., Hirano I., Katzka D.A., Mukkada V.A., Falk G.W., Williams J.E., Desai N.K., Lan L., Dellon E.S. American Journal of Gastroenterology. Conference: 2020 Annual Scientific Meeting of the American College of Gastroenterology, ACG 2020. Nashville, TN United States. 115(SUPPL) (pp S200-S201), 2020. Date of Publication: October 2020.	Dual publication and sub-analysis of an already included study. No outcome of interest
Determination of the Eosinophilic Esophagitis Endoscopic Reference Score Associated with Histologic Response to Therapy: Analysis from a Phase 3 Placebo-Controlled Trial of Budesonide Oral Suspension. Hirano I., Collins M.H., Katzka D.A., Mukkada V.A., Falk G.W., Williams J.E., Desai N.K., Lan L., Dellon E.S. American Journal of Gastroenterology. Conference: 2020 Annual Scientific Meeting of the American College of Gastroenterology, ACG 2020. Nashville, TN United States. 115(SUPPL) (pp S217-S218), 2020. Date of Publication: October 2020.	Dual publication and sub-analysis of an already included study. No outcome of interest

Safety and Efficacy of Long-Term Treatment of EoE with Fluticasone Propionate Orally Disintegrating Tablet (APT-1011): Results from 40 Weeks Treatment in a Phase 2b Randomized Double-Blind Placebo-Controlled Trial. Dellon E.S., Lucendo A., Schlag C., Schoepher A., Falk G.W., Richardson P., Eagle G., Nezamis J., Comer G., Knoop K., Hirano I. American Journal of Gastroenterology. Conference: 2020 Annual Scientific Meeting of the American College of Gastroenterology, ACG 2020. Nashville, TN United States. 115(SUPPL) (pp S169-S170), 2020. Date of Publication: October 2020.	Dual publication of an already included study
227 BUDESONIDE ORAL SUSPENSION (BOS) IMPROVES ENDOSCOPIC ACTIVITY IN ADOLESCENTS AND ADULTS WITH EOSINOPHILIC ESOPHAGITIS: RESULTS AND CORRELATION ANALYSIS FROM A PHASE 3, RANDOMIZED, PLACEBO-CONTROLLED TRIAL. Hirano I., Collins M.H., Katzka D.A., Mukkada V.A., Falk G.W., Williams J., Desai N.K., Lan L., Dellon E.S. Gastroenterology. Conference: Digestive Disease Week (DDW) 2020. Chicago United States. 158(6 Supplement 1) (pp S-42-S-43), 2020. Date of Publication: May 2020.	Dual publication of an already included study
AN EPISODE-BASED, PATIENT-REPORTED OUTCOME MEASURE OF DYSPHAGIA ACCURATELY CAPTURES RESPONSE TO TREATMENT WITH APT-1011 IN A PHASE 2B, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, CLINICAL TRIAL IN ADULTS WITH EOSINOPHILIC ESOPHAGITIS. Dellon E.S., Falk G.W., Hirano I., Lucendo A., Schlag C., Schoepfer A.M., Eagle G., Nezamis J.P., Sparling N., Richardson P., Knoop K., Paty J. Gastroenterology. Conference: Digestive Disease Week (DDW) 2020. Chicago United States. 158(6 Supplement 1) (pp S-817), 2020. Date of Publication: May 2020.	Dual publication and sub-analysis of an already included study. No outcome of interest.
PREDICTORS OF RESPONSE TO CORTICOSTEROID THERAPY IN PATIENTS WITH EOSINOPHILIC ESOPHAGITIS: RESULTS FROM A PHASE 3, RANDOMIZED, PLACEBO-CONTROLLED TRIAL OF BUDESONIDE ORAL SUSPENSION. Hirano I., Katzka D.A., Collins M.H., Mukkada V.A., Gold B.D., Falk G.W., Williams J., Desai N.K., Lan L., Dellon E.S. Gastroenterology. Conference: Digestive Disease Week (DDW) 2020. Chicago United States. 158(6 Supplement 1) (pp S-817-S-818), 2020. Date of Publication: May 2020.	Dual publication and sub-analysis of an already included study. No outcome of interest.
AK002, an Anti-Siglec-8 Antibody, Depletes Tissue Eosinophils and Improves Dysphagia Symptoms in Patients with Eosinophilic Esophagitis. Hirano I., Peterson K., Murray J., Dellon E., Falk G., Gonsalves N., Chehade M., Leung J., Genta R., Khoury P., Bledsoe A., Shaw C., Rasmussen H., Singh B., Chang A., Kamboj A., Rothenberg M. Journal of Allergy and Clinical Immunology. Conference: 2020 AAAAI Annual Meeting. Philadelphia United States. 145(2 Supplement) (pp AB167), 2020. Date of Publication: February 2020.	Not the disease of interest.

Budesonide Oral Suspension Improves Histologic Features In Patients With Eosinophilic Esophagitis: Results From A Phase 3, Randomized, Double-blind, Placebo-Controlled Trial. Collins M., Hirano I., Katzka D., Cianferoni A., Williams J., Desai N., Lan L., Dellon E. Journal of Allergy and Clinical Immunology. Conference: 2020 AAAAI Annual Meeting. Philadelphia United States. 145(2 Supplement) (pp AB166), 2020. Date of Publication: February 2020.	Dual publication and sub-analysis of an already included study. No outcome of interest
ORAL VISCOUS BUDESONIDE VERSUS SWALLOWED FLUTICASONE INHALER FOR INITIAL TREATMENT OF ADOLESCENTS AND ADULTS WITH EOSINOPHILIC ESOPHAGITIS: A RANDOMIZED, DOUBLE-BLIND, DOUBLE-DUMMY CLINICAL TRIAL. Dellon E.S., Woosley J.T., Arrington A., McGee S.J., Covington J., Moist S.E., Gebhart J.H., Tylicki A.E., Shoyoye S.O., Martin C., Galanko J., Baron J.A., Shaheen N.J. Gastroenterology. Conference: Digestive Disease Week, DDW 2019. San Diego United States. 156(6 Supplement 1) (pp S-72-S-73), 2019. Date of Publication: 2019.	Dual publication of an already included study
BUDESONIDE ORODISPERSIBLE TABLETS CAN EFFECTIVELY INDUCE COMPLETE REMISSION OF ENDOSCOPIC AND HISTOLOGIC MUCOSAL ABNORMALITIES AND CAN INDUCE DEEP DISEASE REMISSION IN ACTIVE EOSINOPHILIC ESOPHAGITIS: RESULTS FROM A POST-HOC ANALYSIS OF THE RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED EOS-1 TRIAL. Lucendo A., Schlag C., Straumann A., Vieth M., Mueller R., Greinwald R., Miehlke S. Gastroenterology. Conference: Digestive Disease Week, DDW 2019. San Diego United States. 156(6 Supplement 1) (pp S-715-S-716), 2019. Date of Publication: 2019.	Dual publication of an already included study
RAPID RECURRENCE OF SYMPTOMS, ENDOSCOPIC FINDINGS, AND ESOPHAGEAL EOSINOPHILIA WITHOUT MAINTENANCE THEARPY AFTER SUCCESSFUL INITIAL TREATMENT: RESULTS FROM THE OBSERVATION PHASE OF A RANDOMIZED, DOUBLE-BLIND, DOUBLE DUMMY CLINICAL TRIAL. Dellon E.S., Woosley J.T., Arrington A., McGee S.J., Covington J., Moist S.E., Gebhart J.H., Martin C., Galanko J., Baron J.A., Shaheen N.J. Gastroenterology. Conference: Digestive Disease Week, DDW 2019. San Diego United States. 156(6 Supplement 1) (pp S-713-S-714), 2019. Date of Publication: 2019.	Relapse of disease activity study.
BUDESONIDE ORODISPERSIBLE TABLETS ARE HIGHLY EFFECTIVE TO MAINTAIN CLINICO-HISTOLOGICAL REMISSION IN ADULT PATIENTS WITH EOSINOPHILIC ESOPHAGITIS: RESULTS FROM THE 48-WEEKS, DOUBLE-BLIND, PLACEBO-CONTROLLED, PIVOTAL EOS-2 TRIAL. Lucendo A., Miehlke S., Vieth M., Schlag C., Biedermann L., Santander C., Ciriza de los Rios C., Hartmann D., Madisch A., Hruz P., Hayat J.O., Arnim U.V., Bredenoord A.J., Schubert S., Attwood S.E., Mueller R., Greinwald R., Schoepfer A.M., Straumann A. Gastroenterology. Conference: Digestive Disease Week, DDW 2019. San Diego United States. 156(6 Supplement 1) (pp S-1509), 2019. Date of Publication: May 2019.	Maintenance of remission study.

EFFICACY OF BUDESONIDE ORODISPERSIBLE TABLETS FOR INDUCTION OF REMISSION IN PATIENTS WITH ACTIVE EOSINOPHILIC ESOPHAGITIS: RESULTS FROM THE 6-WEEKS OPEN-LABEL TREATMENT PHASE OF EOS-2 TRIAL. Schlag C., Miehlke S., Lucendo A., Biedermann L., Santander C., Hartmann D., Hayat J.O., Hruz P., de los Rios C.C., Bredenoord A.J., Vieth M., Mueller R., Greinwald R., Straumann A. Gastroenterology. Conference: Digestive Disease Week, DDW 2019. San Diego United States. 156(6 Supplement 1) (pp S-715), 2019. Date of Publication: 2019.	Dual publication of an already included study
Budesonide orodispersible tablets are superior to maintain and even further improve quality of life in adult patients with eosinophilic esophagitis: Results from the 48-weeks, double-blind, placebo-controlled pivotal EOS-2 trial. Schlag C., Biedermann L., Lucendo A.J., Miehlke S., Santander Vaquero C., Ciriza De Los Rios C., Hartmann D., Madisch A., Hruz P., Hayat J., Von Arnim U., Bredenoord A., Muller R., Greinwald R., Schoepfer A., Attwood S.E., Straumann A. United European Gastroenterology Journal. Conference: 27th United European Gastroenterology Week, UEG. Barcelona Spain. 7(8 Supplement) (pp 705), 2019. Date of Publication: October 2019.	Maintenance of remission study.
A novel budesonide orodispersibletablet with a special esophageal-targeting can induce complete clinical, endoscopic and histologic remission in active Eosinophilic Esophagitis: Results from a post-hoc analysis of the randomized, double-blind, placebo-controlled EOS-1 trial. Miehlke S., Schlag C., Straumann A., Vieth M., Muller R., Greinwald R., Lucendo A.J. United European Gastroenterology Journal. Conference: 27th United European Gastroenterology Week, UEG. Barcelona Spain. 7(8 Supplement) (pp 423), 2019. Date of Publication: October 2019.	Dual publication of an already included study
A novel budesonide orodispersible tablet formulation is highly effective to maintain endoscopic inflammatory remission and even complete endoscopic remission in adult patients with eosinophilic esophagitis : Results from the 48-weeks, double-blind, placebo-controlled pivotal EOS-2 trial. Biedermann L., Lucendo A.J., Miehlke S., Schlag C., Santander Vaquero C., Ciriza De Los Rios C., Hartmann D., Madisch A., Hruz P., Hayat J., Von Arnim U., Bredenoord A., Muller R., Greinwald R., Schoepfer A., Attwood S.E., Straumann A. United European Gastroenterology Journal. Conference: 27th United European Gastroenterology Week, UEG. Barcelona Spain. 7(8 Supplement) (pp 55), 2019. Date of Publication: October 2019.	Maintenance of remission study.
A novel oral budesonide formulation is highly effective for induction of remission in patients with active eosinophilic esophagitis : Results from the 6-weeks open-label treatment phase of EOS-2 trial. Lucendo A.J., Schlag C., Miehlke S., Biedermann L., Santander Vaquero C., Hartmann D., Hayat J., Hruz P., Ciriza De Los Rios C., Bredenoord A., Vieth M., Muller R., Greinwald R., Straumann A. United European Gastroenterology Journal. Conference: 27th United European Gastroenterology Week, UEG. Barcelona Spain. 7(8 Supplement) (pp 54), 2019. Date of Publication: October 2019.	Not a randomised controlled trial.
Efficacy of budesonide oral suspension for eosinophilic esophagitis in adolescents and adults: Results from a phase 3, randomized, placebo-controlled trial. Hirano I., Collins M.H., Katzka D.A., Mukkada V.A., Falk G.W., Williams J., Desai N.K., Lan L., Morey R., Dellon E.S. American Journal of Gastroenterology. Conference: 2019 Annual Scientific Meeting and Postgraduate Course of the American College of Gastroenterology, ACG 2019. San Antonio, TX United States. 114(Supplement) (pp S205-S206), 2019. Date of Publication: October 2019.	Dual publication of an already included study

BUDESONIDE ORAL SUSPENSION TREATMENT IMPROVES DYSPHAGIA SYMPTOMS IN PATIENTS WITH EOSINOPHILIC ESOPHAGITIS. Hirano I., Collins M., Katzka D., Mukkada V., Falk G., Johnston D., Soteres D., Williams J., Desai N., Lan L., Morey R., Dellon E. Annals of Allergy, Asthma and Immunology. Conference: 2019 Annual Scientific Meeting of the American College of Allergy, Asthma and Immunology. Houston United States. 123(5 Supplement) (pp S56-S57), 2019. Date of Publication: November 2019.	Dual publication of an already included study
Efficacy and safety of budesonide orodispersible tablets in active eosinophilic oesophagitis: Results from a randomised, double-blind, placebo-controlled, pivotal, European multicentre trial (EOS-1). Straumann A., Lucendo A.J., Greinwald R., Mueller R., Attwood S. Swiss Medical Weekly. Conference: Annual Meeting Swiss Society of Gastroenterology, SGG-SSG, Swiss Society of Visceral Surgery, SGVC-SSCV, Swiss Association for the Study of the Liver, SASL and Swiss Society of Endoscopy Nurses and Associates, SVEP-ASPE. Lausanne Switzerland. 147(Supplement 225) (pp 10S), 2017. Date of Publication: September 2017.	Dual publication of an already included study
Dupilumab efficacy and safety in adult patients with active eosinophilic oesophagitis: A randomised double-blind placebo-controlled phase 2 trial. Hirano I., Dellon E.S., Hamilton J.D., Collins M.H., Peterson K., Chehade M., Schoepfer A.M., Safroneeva E., Rothenberg M.E., Falk G.W., Assouline Dayan Y., Qing Z., Swanson B.N., Pirozzi G., Mannent L., Graham N.M., Akinlade B., Radin A. United European Gastroenterology Journal. Conference: 25th United European Gastroenterology Week, UEG 2017. Barcelona Spain. 5(8) (pp 1146-1147), 2017. Date of Publication: December 2017.	Dual publication of an already included study
Budesonide orodispersible tablets are highly effective for treatment of active eosinophilic esophagitis: Results from a randomized, double-blind, placebo-controlled, pivotal multicenter trial (EOS-1). Lucendo A., Miehlke S., Vieth M., Schlag C., Von Arnim U., Molina-Infante J., Hartmann D., Bredenoord A.J., De Los Rios C.C., Schubert S., Bruckner S., Madisch A., Hayat J.O., Tack J.F., Attwood S.E., Mueller R., Greinwald R., Schoepfer A.M., Straumann A. Gastroenterology. Conference: Digestive Disease Week 2017, DDW 2017. Chicago, IL United States. 152(5 Supplement 1) (pp S207), 2017. Date of Publication: April 2017.	Dual publication of an already included study
Alexander, J. A., Ravi, K., Enders, F. T., Geno, D. M., Kryzer, L. A., Mara, K. C., Smyrk, T. C., & Katzka, D. A. (2017). Montelukast Does not Maintain Symptom Remission After Topical Steroid Therapy for Eosinophilic Esophagitis. Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association, 15(2), 214–221.e2. https://doi.org/10.1016/j.cgh.2016.09.013	Maintenance of remission study.
Miehlke, S., Hruz, P., Vieth, M., Bussmann, C., von Arnim, U., Bajbouj, M., Schlag, C., Madisch, A., Fibbe, C., Wittenburg, H., Allescher, H. D., Reinshagen, M., Schubert, S., Tack, J., Müller, M., Krummenerl, P., Arts, J., Mueller, R., Dilger, K., Greinwald, R., … Straumann, A. (2016). A randomised, double-blind trial comparing budesonide formulations and dosages for short-term treatment of eosinophilic oesophagitis. Gut, 65(3), 390–399. https://doi.org/10.1136/gutjnl-2014-308815	Did not report extractable data on endpoints of interest (duration of treatment 2 weeks).
Gupta, S. K., Vitanza, J. M., & Collins, M. H. (2015). Efficacy and safety of oral budesonide suspension in pediatric patients with eosinophilic esophagitis. Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association, 13(1), 66–76.e3. https://doi.org/10.1016/j.cgh.2014.05.021	Not the population of interest (paediatric study)

Randomized, double-blind, placebo controlled trial demonstrates the efficacy of oral budesonide suspension in improving endoscopically identified esophageal abnormalities in eosinophilic esophagitis. Hirano I., Katzka D.A., Collins M.H., Dellon E.S. Gastroenterology. Conference: Digestive Disease Week 2015, DDW 2015. Washington, DC United States. Conference Publication: (var.pagings). 148(4 SUPPL. 1) (pp S29), 2015. Date of Publication: April 2015.	Dual publication of an already included study
Butz, B. K., Wen, T., Gleich, G. J., Furuta, G. T., Spergel, J., King, E., Kramer, R. E., Collins, M. H., Stucke, E., Mangeot, C., Jackson, W. D., O'Gorman, M., Abonia, J. P., Pentiuk, S., Putnam, P. E., & Rothenberg, M. E. (2014). Efficacy, dose reduction, and resistance to high-dose fluticasone in patients with eosinophilic esophagitis. Gastroenterology, 147(2), 324–33.e5. https://doi.org/10.1053/j.gastro.2014.04.019	Not the population of interest (mixed population paediatric-adults)
Spergel, J. M., Rothenberg, M. E., Collins, M. H., Furuta, G. T., Markowitz, J. E., Fuchs, G., 3rd, O'Gorman, M. A., Abonia, J. P., Young, J., Henkel, T., Wilkins, H. J., & Liacouras, C. A. (2012). Reslizumab in children and adolescents with eosinophilic esophagitis: results of a double-blind, randomized, placebo-controlled trial. The Journal of allergy and clinical immunology, 129(2), 456–463.e4633. https://doi.org/10.1016/j.jaci.2011.11.044	Not the population of interest (mixed population paediatric-adolescents)
Assa'ad, A. H., Gupta, S. K., Collins, M. H., Thomson, M., Heath, A. T., Smith, D. A., Perschy, T. L., Jurgensen, C. H., Ortega, H. G., & Aceves, S. S. (2011). An antibody against IL-5 reduces numbers of esophageal intraepithelial eosinophils in children with eosinophilic esophagitis. Gastroenterology, 141(5), 1593–1604. https://doi.org/10.1053/j.gastro.2011.07.044	Not the population of interest (paediatric study)
Straumann, A., Conus, S., Degen, L., Frei, C., Bussmann, C., Beglinger, C., Schoepfer, A., & Simon, H. U. (2011). Long-term budesonide maintenance treatment is partially effective for patients with eosinophilic esophagitis. Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association, 9(5), 400–9.e1. https://doi.org/10.1016/j.cgh.2011.01.017	Maintenance of remission study.
Dohil, R., Newbury, R., Fox, L., Bastian, J., & Aceves, S. (2010). Oral viscous budesonide is effective in children with eosinophilic esophagitis in a randomized, placebo-controlled trial. Gastroenterology, 139(2), 418–429. https://doi.org/10.1053/j.gastro.2010.05.001	Not the population of interest (paediatric study)

Supplementary Table 2. Characteristics of Included Studies of Randomised Controlled Trials of Topical Steroids, Proton Pump Inhibitors, or Biologics in Patients with Active EoE.

Study and year	Country and number of centres	Population (age) and definition of active EoE	Treatments compared (No. of patients) and duration of therapy	Histological endpoint	Endoscopic endpoint	Symptomatic endpoint	Size of HPF in mm^2
Peterson 2010	United States, single centre	Adults (18-80) with >15 eos/HPF and symptoms of oesophageal dysfunction	Esomeprazole 40mg o.d. (n=15) versus fluticasone aerosolised/swallowed 440mcg b.i.d. (n=15) for 8 weeks	Proportion of patients achieving ≤5 eos/HPF Proportion of patients achieving ≤15 eos/HPF	Not assessed	Proportion of patients achieving a decrease of dysphagia score of at least two points in a 0-7 dysphagia score	0.53mm^2
Straumann 2010	Switzerland, single centre	Adults (>18) with >20 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to	Mepolizumab (750mg at w0 and w1, then 1500mg w5 and w9) (n=5) or placebo (n=6) for 9 weeks	Proportion of patients achieving <5 eos/HPF Proportion of patients	Absent, minor (fine nodules, fine whitish reticular structures, furrows), moderate (bright	Assessment of proportion of days that subjects reported difficulty in swallowing averaged over the 7 days prior to the clinic visit and	0.30mm^2

		PPIs and topical/systemic steroids		achieving <15 eos/HPF	white scale- or plaque-like structures, corrugated rings) or severe (mucosal lesions, fixed stenosis)	by ranking the global change of EoE symptoms compared with baseline.	
Alexander 2012	United States, single centre	Adults (18-65) with >20 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Fluticasone aerosolised/swallowed 880mcg b.i.d. (n=21) or placebo (n=15) for 6 weeks	Complete response= decrease in mean eosinophil level of more than 90% from the pretreatment value. Partial response= decrease in more than 50%	Response was defined as resolution of all endoscopic findings	Proportion of patients achieving complete symptomatic response (those who answered “no” to the question, “In the past 2 weeks, have you had trouble swallowing, not associated with other cold symptoms (such as strep throat or mononucleosis)?” on the MDQ 2-week version.)	0.30mm^2

				from the pretreatment value.		Proportion of patients achieving partial symptom response (those who answered "yes" to the earlier-described question and a decrease in severity of at least 2 levels (or to a level of "Doesn't bother me at all"), or a decrease in frequency of at least 1 level	
Dellon 2012	United States, single centre	Adults (>18) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Budesonide oral suspension 1mg b.i.d. (n=12) or budesonide aerosolised/swallowed 1mg b.i.d. (n=13) for 8 weeks	Proportion of patients achieving <15 eos/HPF Proportion of patients achieving <7 eos/HPF Proportion of patients	Overall endoscopy findings	Symptoms response assessed with MDQ	Not reported

				achieving <1 eos/HPF			
Moawad 2013	United States, single centre	≥15 eos/HPF and symptoms of oesophageal dysfunction	Esomeprazole 40mg o.d. (n=21) or fluticasone aerosolised/swallowed 440mcg b.i.d. (n=21) for 8 weeks	Proportion of patients achieving <7 eos/HPF	Improvement in endoscopic findings (not assessed with EREFS score)	Symptoms response assessed with MDQ	0.19 mm^2
Dellon 2017	United States, 25 centres	Adults and adolescents (11-40) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Budesonide oral suspension 2mg/10mL b.i.d. (n=51) or placebo (n=42) for 12 weeks	Proportion of patients achieving ≤6 eos/HPF Proportion of patients achieving ≤15 eos/HPF Proportion of patients achieving ≤1 eos/HPF	Complete normalization of EREFS score	Proportion of patients with ≥30% reduction in DSQ score compared with baseline	0.30mm^2

Dellon 2019	United States, single centre	Adults and adolescents (16-80) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Fluticasone aerosolised/swallowed 880mcg + placebo slurry b.i.d. (n=55) or budesonide oral viscous 1mg/4mL b.i.d. + placebo inhaler (n=56) for 8 weeks	Proportion of patients achieving < 15 eos/HPF Proportion of patients achieving < 5 eos/HPF Proportion of patients achieving < 1 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Improvement in DSQ	0.24 mm^2
Hirano 2019	United States, Canada, Switzerland, 30 centres	Adults (18-65) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	RPC4046 180mg qw (n=32) or RPC4046 360mg qw (n=34) or placebo (n=34) for 16 weeks	Proportion of patients achieving < 15 eos/HPF Proportion of patients achieving < 6 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Clinical response assessed as change from baseline in the Global EoE Symptom Score and Dysphagia Symptom Diary	0.30mm^2

Lucendo 2019	Belgium, Germany, The Netherlands, Spain, Switzerland, United Kingdom, 26 centres	Adults (18-75) with ≥20 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Budesonide orally disintegrating tablet 1 mg b.i.d. (n=59) or placebo (n=29) for 6 weeks	Proportion of patients achieving ≤15 eos/HPF	Complete normalization of EREFS score	Proportion of patients achieving clinical remission defined as EEsAI ≤20 and Patient Global Assessment of EoE on a 0-10 NRS	0.34 mm^2
Hirano 2020	United States, 14 centres	Adults (18-65) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Dupilumab 300mg weekly (n=23) or placebo (n=24) for 10 weeks	Proportion of patients achieving <15 eos/HPF Proportion of patients achieving <1 eos/HPF Proportion of patients	Improvement in endoscopy findings assessed with EREFS score	Proportion of patients achieving clinical remission as defined as EEsAI ≤20 Proportion of patients achieving reduction in Straumann Dysphagia Instrument of ≥3	0.30 mm^2

				achieving ≤6 eos/HPF			
Dellon 2022a	United States, Canada, Belgium, Switzerland, Spain, Germany, 93 centres	Adults (18-75) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Fluticasone propionate orally disintegrating tablet 3 mg b.i.d. (n=20) or fluticasone propionate orally disintegrating tablet 3 mg o.d. (n=22) or fluticasone propionate orally disintegrating tablet 1.5 mg b.i.d. (n=22) or fluticasone propionate orally disintegrating tablet 1.5 mg o.d. (n=21) or placebo (n=20) for 12 weeks	Proportion of patients achieving <15 eos/HPF Proportion of patients achieving <1 eos/HPF Proportion of patients achieving ≤6 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Clinical response assessed as change from baseline in the Global EoE Symptom Score and EEsAI	0.23 mm^2
Dellon 2022b – Part A	Australia, Belgium, Canada, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland,	Adults and adolescents (≥12 years) with ≥15 eos/HPF and symptoms of oesophageal	Dupilumab 300mg weekly (n=42) or placebo (n=39) for 24 weeks	Proportion of patients achieving ≤6 eos/HPF Proportion of patients	Improvement in endoscopy findings assessed with EREFS score	Absolute change in DSQ score from baseline	Not reported

	United Kingdom, United States, 96 centres	dysfunction nonresponsive to PPIs		achieving <15 eos/HPF Proportion of patients achieving ≤1 eos/HPF			
Dellon 2022b – Part B	Australia, Belgium, Canada, France, Germany, Italy, Netherlands, Spain, Sweden, Switzerland, United Kingdom, United States, 96 centres	Adults and adolescents (≥12 years) with ≥15 eos/HPF and symptoms of oesophageal dysfunction nonresponsive to PPIs	Dupilumab 300mg weekly (n=80) or dupilumab 300mg 2-weekly (n=81) or placebo (n=79) for 24 weeks	Proportion of patients achieving ≤6 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Absolute change in DSQ score from baseline	Not reported
Dellon 2022c	Australia, Netherlands, United States, 78 centres	Adults and adolescents (≥12 years) with ≥15 eos/HPF and	Lirentelimab 1mg/kg for one dose then 3mg/Kg for 5 doses (n=91) or lirentelimab 1mg/kg (n=93) or placebo (n=92) for 24 weeks	Proportion of patients achieving ≤6 eos/HPF	Not reported	Absolute change in DSQ score from baseline	Not reported

		symptoms of oesophageal dysfunction					
Hirano 2022	United States, 66 centres	Adults and adolescents (11-55) with ≥15 eos/HPF and symptoms of oesophageal dysfunction	Budesonide oral suspension 2mg/10mL b.i.d. (n=213) or placebo (n=105) for 12 weeks	Proportion of patients achieving <15 eos/HPF Proportion of patients achieving ≤1 eos/HPF Proportion of patients achieving ≤6 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Proportion of patients with ≥30% reduction in DSQ score compared with baseline	0.30 mm^2
Rothenberg 2023	Canada, France, Germany, Israel, Italy, Japan, Netherlands, Poland, Russia,	Adults and adolescents (12-65) with ≥15 eos/HPF and symptoms of	Benralizumab 30mg every four weeks (n=103) or placebo (n=107) for 24 weeks	Proportion of patients achieving ≤6 eos/HPF	Improvement in endoscopy findings assessed with EREFS score	Absolute change in DSQ score from baseline	Not reported

	Spain, United Kingdom, United States, 78 centres	oesophageal dysfunction					

Abbreviations: DSQ, Dysphagia Symptom Questionnaire; **EEsAI**, Eosinophilic Oesophagitis Activity Index; **EoE**, eosinophilic oesophagitis; **eos/HPF**, eosinophils/high-power field; **EREFS**, EoE Endoscopic Reference Score; **MDQ,** Mayo Dysphagia Questionnaire; **NRS**, numerical rating scale; **PPIs**, proton pump inhibitors.

Supplementary Table 3. Total Number of Trials of Each Treatment, and Total Number of Included Patients Assigned to Each Drug and Placebo in Randomised Controlled Trials of Oral Steroids, Proton Pump Inhibitors, or Biologics in Patients with Active EoE.

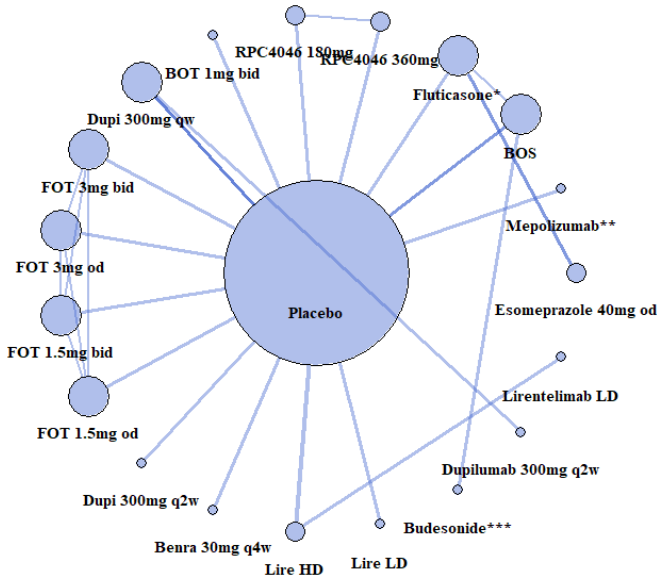
Treatment	Number of RCTs	Total Number of Patients	References
Esomeprazole	2	36	[1, 2]
Fluticasone aerosolised/swallowed	4	112	[1-4]
Budesonide aerosolised/swallowed	1	13	[5]
Budesonide oral suspension	4	332	[4-7]
Budesonide orally disintegrating tablet	1	59	[8]
Fluticasone orally disintegrating tablet	1	85	[9]
Lirentelimab	1	184	[10]
Benralizumab	1	103	[11]
Dupilumab	2	226	[12, 13]
Mepolizumab	1	5	[14]
RPC4046	1	66	[15]
Placebo	11	592	[3, 6-15]

Supplementary Table 4. Risk of Bias of Randomised Controlled Trials of Oral Steroids, Proton Pump Inhibitors, or Biologics in Patients with Active EoE.

Study and year	Method of Generation of Randomization Schedule	Method of Concealment of Treatment Allocation	Blinding	Evidence of Incomplete Outcomes Data	Evidence of Selective Reporting of Outcomes
Peterson 2010	Low	Low	High	Low	High
Straumann 2010	Low	Low	Low	Low	Low
Alexander 2012	Low	Low	Low	Low	Low
Dellon 2012	Low	Low	High	Low	Low
Moawad 2013	Low	Low	High	Low	Low
Dellon 2017	Low	Low	Low	Low	Low
Dellon 2019	Low	Low	Low	Low	Low
Hirano 2019	Low	Low	Low	Low	Low
Lucendo 2019	Low	Low	Low	Low	Low
Hirano 2020	Low	Low	Low	Low	Low
Dellon 2022a	Low	Low	Low	Low	Low

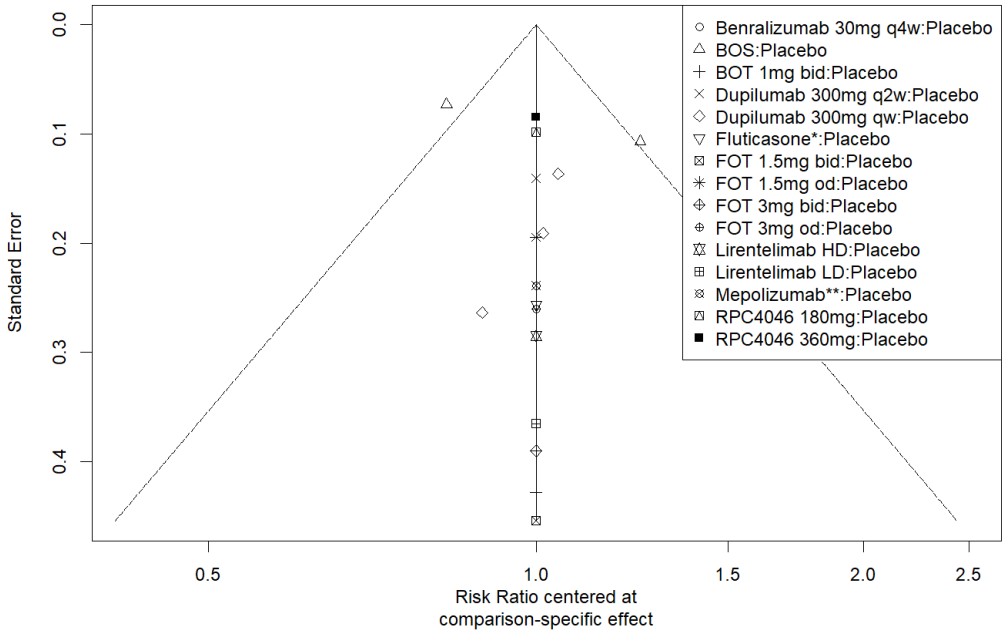
Dellon 2022b	Low	Low	Low	Low	Low
Dellon 2022c	Low	Low	Low	Low	Unclear
Hirano 2022	Low	Unclear	Low	Low	Low
Rothenberg 2023	Low	Low	Low	Unclear	Low

Supplementary Figure 1A. Network Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve Histological Remission as a Reduction in Oesophageal Eosinophilic Infiltrate to ≤6 Eosinophils per HPF.

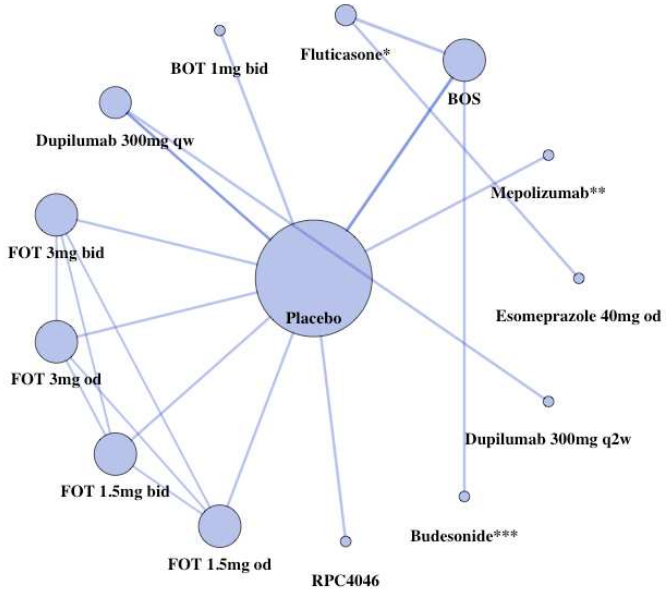


*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.; **750mg w0-w1 then 1500mg w5-w9; ***aerosolised 1mg b.i.d.; Lire LD, lirentelimab 1mg/Kg for 6 monthly doses; Lire HD, lirentelimab 1 mg/Kg for the first dose then 3mg/Kg for five monthly doses.

Supplementary Figure 1B. Funnel Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve Histological Remission as a Reduction in Oesophageal Eosinophilic Infiltrate to ≤6 Eosinophils per HPF.

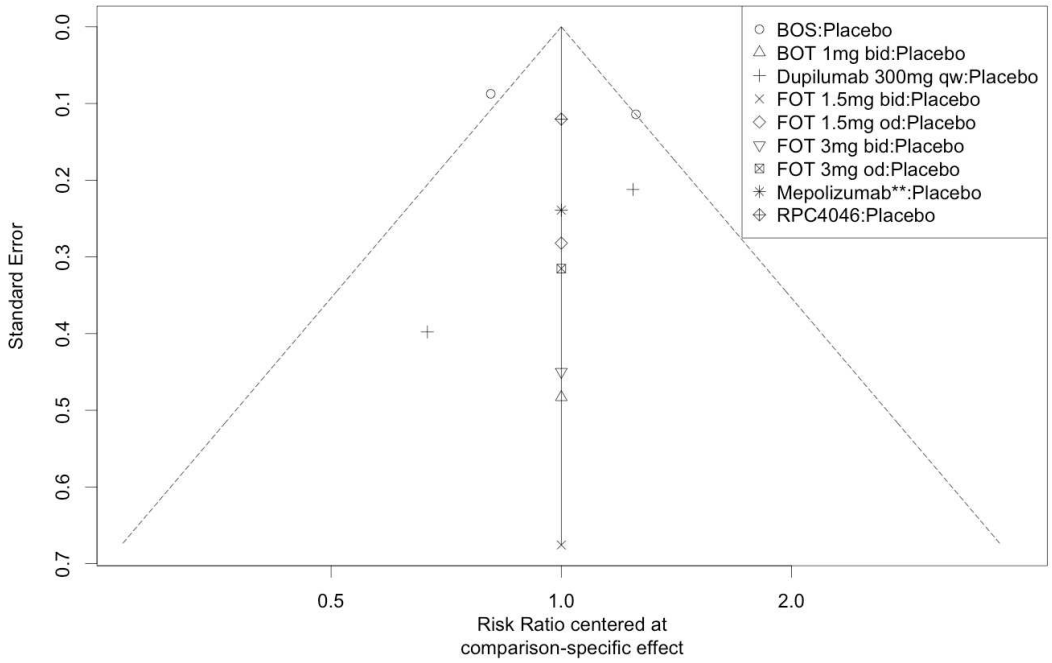


Supplementary Figure 2A. Network Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve Histological Remission as a Reduction in Oesophageal Eosinophilic Infiltrate to ≤15 Eosinophils per HPF.

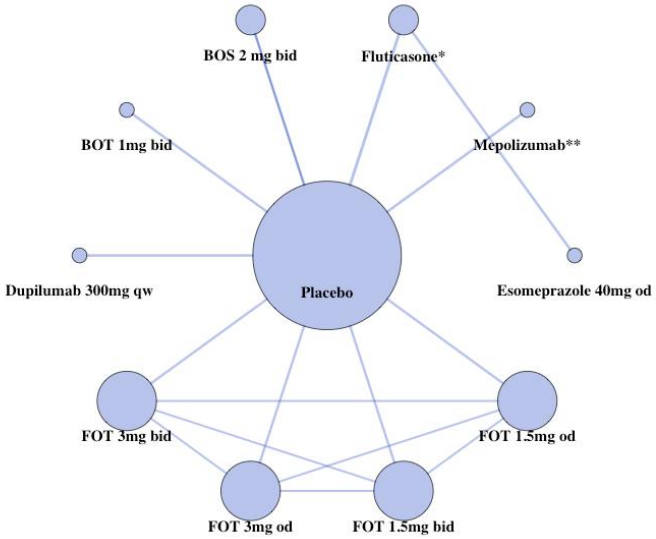


*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.; **750mg w0-w1 then 1500mg w5-w9; ***aerosolised 1mg b.i.d.

Supplementary Figure 2B. Funnel Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve Histological Remission as a Reduction in Oesophageal Eosinophilic Infiltrate to ≤15 Eosinophils per HPF.

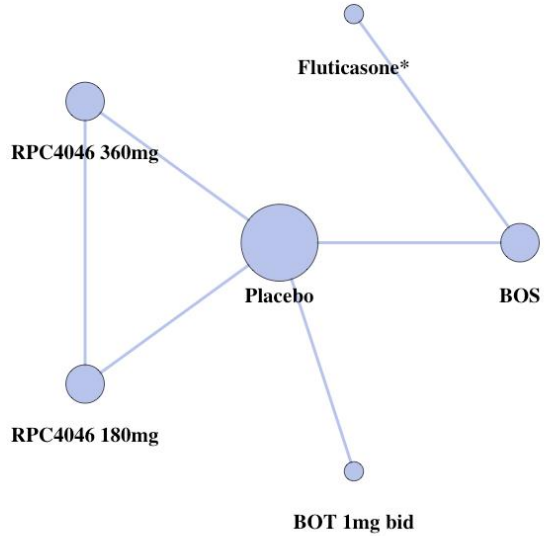


Supplementary Figure 3. Network Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve Symptomatic Response.



*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.; **750mg w0-w1 then 1500mg w5-w9.

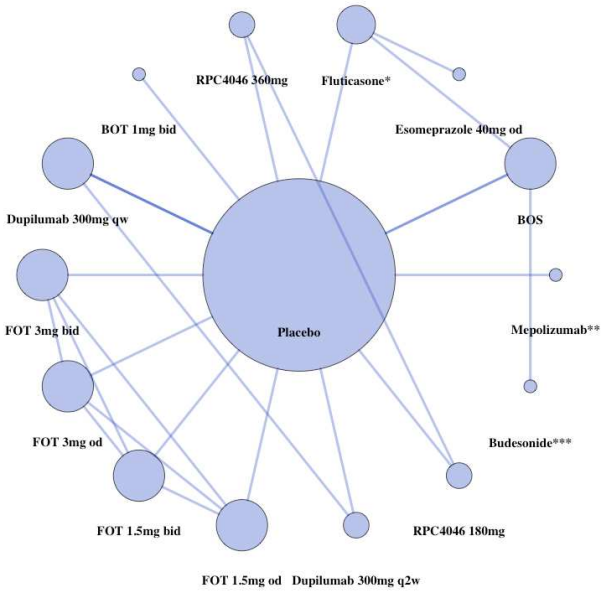
Supplementary Figure 4. Network Plot of Studies Reporting Data Concerning Efficacy of Topical Steroids, PPIs, and Biologics in Terms of Failure to Achieve >50% Endoscopic Improvement Based on the EREFS Score.



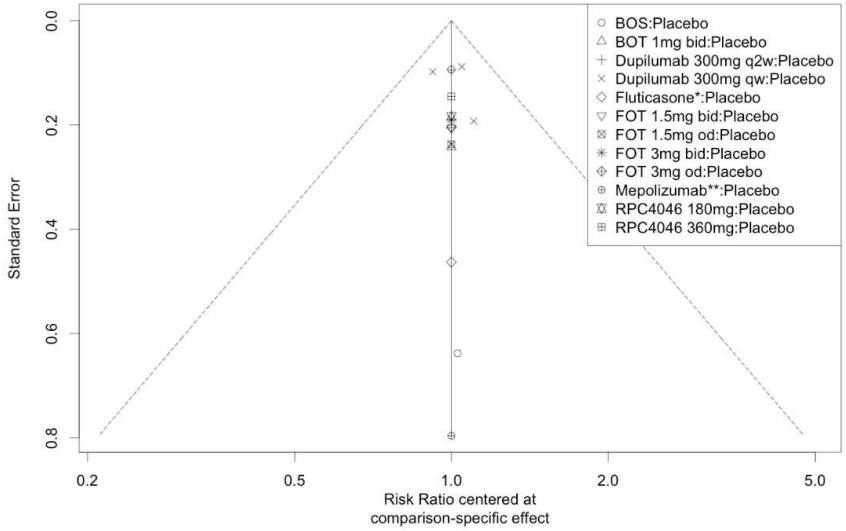
*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.

Supplementary Figure 5. Network Meta-analysis of Likelihood of Adverse Events.

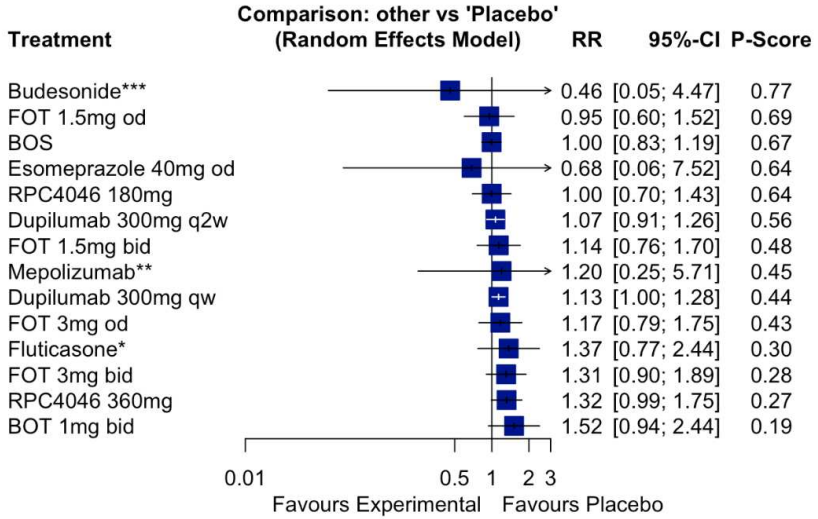
A. Network Plot for Any Adverse Event.



B. Funnel Plot for Any Adverse Event



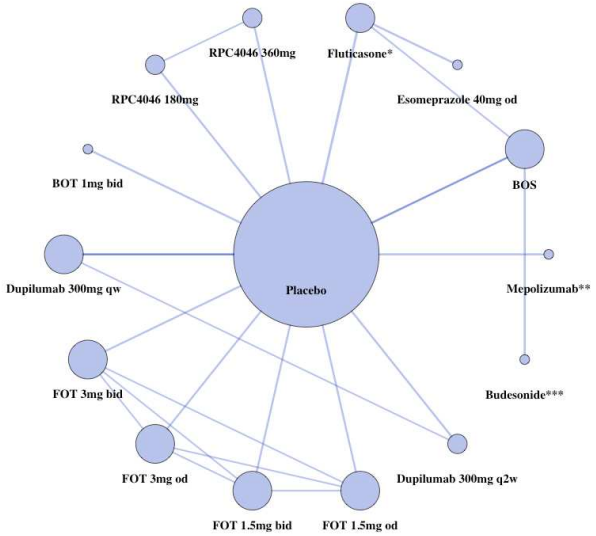
C. Forest Plot for Any Adverse Event.



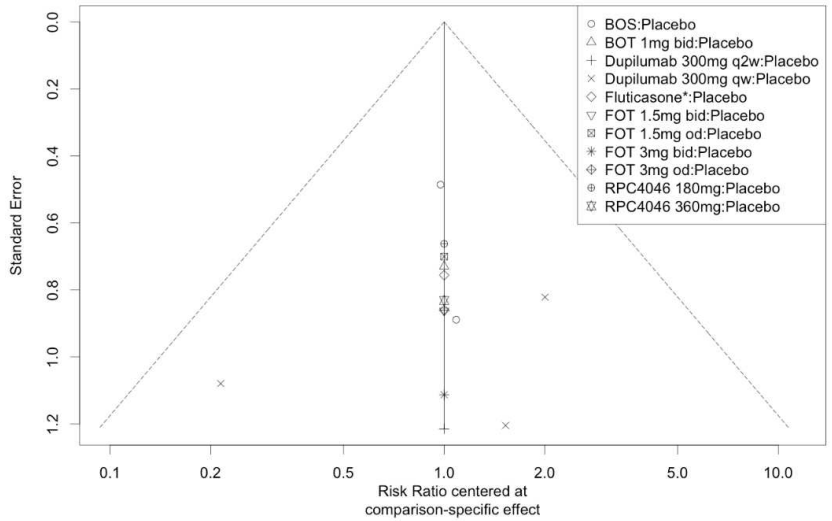
*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.; **750mg w0-w1 then 1500mg w5-w9; ***aerosolised 1mg b.i.d.

Supplementary Figure 6. Network Meta-analysis of Likelihood of Withdrawal Due to Adverse Events.

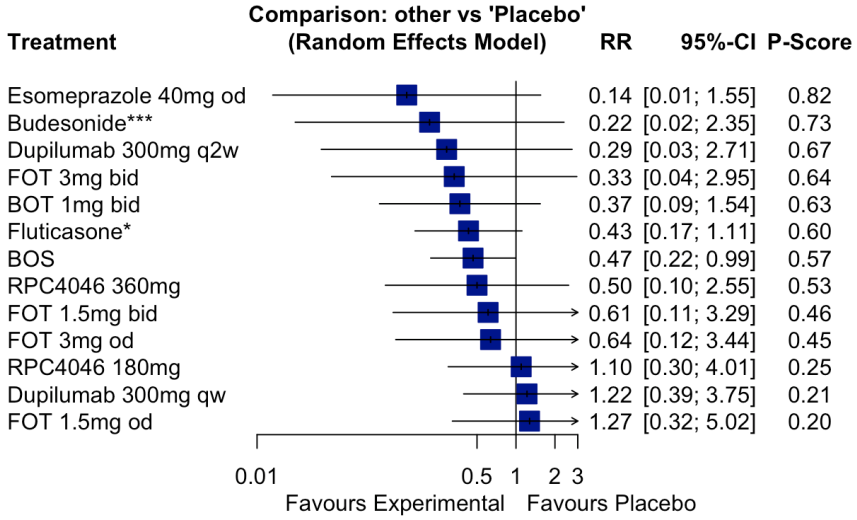
A. Network Plot for Withdrawal Due to Adverse Events.



B. Funnel Plot for Withdrawal Due to Adverse Events.



C. Forest Plot for Withdrawal Due to Adverse Events.



*Aerosolised 440mcg b.i.d. or 880mcg b.i.d.; ***aerosolised 1mg b.i.d.

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