



# METAANALISIS

Información destinada a profesionales

## 1.-Efficacy of Pharmacologic Therapy for Eosinophilic Esophagitis:A Systematic Review and Network Meta-Analysis

Tomizawa Y, Melek J, Komaki Y, Kavitt RT, Sakuraba A. Efficacy of Pharmacologic Therapy for Eosinophilic Esophagitis: A Systematic Review and Network Meta-Analysis. *J Clin Gastroenterol*. 2018;52(7):596-606. doi: 10.1097/MCG.0000000000000878

Disponible en:

[https://journals.lww.com/jcge/Abstract/2018/08000/Efficacy\\_of\\_Pharmacologic\\_Therapy\\_for\\_Eosinophilic.7.aspx](https://journals.lww.com/jcge/Abstract/2018/08000/Efficacy_of_Pharmacologic_Therapy_for_Eosinophilic.7.aspx)

### Abstract

**Goals:** In order to provide a comparative evaluation of available pharmacologic treatments for eosinophilic esophagitis (EoE), we conducted a network meta-analysis.

**Background:** A variety of pharmacologic treatments for EoE have been reported, however there exists a paucity of direct comparisons.

**Study:** We searched randomized controlled trials using MEDLINE, EMBASE, and Cochrane Central Register of Controlled Trials database through December 2014. Studies were analyzed using a random-effects network meta-analysis to identify the most effective therapy. Subgroup analysis was performed among studies that excluded gastroesophageal reflux disease or proton-pump inhibitor responsive esophageal eosinophilia, and also among pediatric and adult populations. The ranking probability for the efficacy of each treatment was analyzed. Consistency of the included randomized controlled trials was checked by applying inconsistency and node-splitting models.

**Results:** Eleven studies of a total of 456 patients were identified. Six pharmacologic treatments (budesonide suspension and viscous, fluticasone, prednisone, esomeprazole, and mepolizumab) and placebo were included in our analysis. Meta-analysis showed superiority of budesonide viscous, budesonide suspension, and fluticasone over placebo. Network meta-analysis demonstrated the rank order of efficacy as budesonide viscous, esomeprazole, prednisone, budesonide suspension, fluticasone, mepolizumab, and placebo. The results were consistent from the inconsistency model analysis and node-splitting analysis. Subgroup analysis demonstrated prednisone, budesonide suspension, and esomeprazole were the most effective when network meta-analyses were performed among studies that excluded gastroesophageal reflux disease or proton-pump inhibitor responsive esophageal eosinophilia, and among pediatric and adult populations, respectively.

**Conclusions:** On the basis of this network meta-analysis, viscous budesonide was shown to be the most effective pharmacologic therapy for EoE among the reported pharmacologic treatments.

## 2.-Corticosteroids for Eosinophilic Esophagitis in Children: A Meta-analysis

Munoz-Osores E, Maldonado-Campos I, Olivares-Labbe MT, Villarroel L, Gana JC. Corticosteroids for Eosinophilic Esophagitis in Children: A Meta-analysis. *Pediatrics*. 2020;146(5):e20200874.

doi:10.1542/peds.2020-0874.Disponible en:

<https://pediatrics.aappublications.org/content/146/5/e20200874.long>

### Abstract

**CONTEXT:** Treatment of eosinophilic esophagitis (EoE) is focused on dietary, pharmacologic, and endoscopic therapy options. Within the pharmacologic alternatives, topical corticosteroids are the most used, and a large number of studies evaluating their effectiveness have been published, requiring a new summary of evidence.

**OBJECTIVE:** To evaluate the histologic and clinical effectiveness of the use of corticosteroids in pediatric patients with a diagnosis of EoE.

**DATA SOURCES:** Cochrane Central Register of Controlled Trials, Medline, Embase, Science Citation Index Expanded, Conference Proceedings Citation Index-Science, Latin American and Caribbean Health Sciences Literature, and [ClinicalTrials.gov](https://clinicaltrials.gov) (June 2019).

**STUDY SELECTION:** We selected randomized controlled trials assessing corticosteroids versus a placebo or dietary treatment of EoE in children.

**DATA EXTRACTION:** Methodologic quality of evidence was evaluated by using the Cochrane Collaboration's risk of bias tool and the Grading of Recommendations Assessment, Development, and Evaluation system. The primary outcomes were clinical and histologic improvement.

**RESULTS:** A total of 1655 studies were identified. Five studies were included (206 patients). Histologic response was 49.25% in the corticosteroids group and 4.16% in the placebo group (risk ratio 11.05 [confidence interval 3.8–32.15];  $P < .0001$ ). Symptomatic response was 33.6% in the corticosteroids group and 21.8% in the control group (risk ratio 1.62 [confidence interval 0.94–2.79];  $P = .08$ ). There were no major adverse effects.

**LIMITATIONS:** Heterogeneity of the diagnosis of EoE.

**CONCLUSIONS:** Our review revealed favorable results of corticosteroids versus placebo, mainly in histologic response. More studies are needed, by using validated clinical scores, to obtain more reliable results.

### 3.-Association between atopic manifestations and eosinophilic esophagitis: A systematic review and meta-analysis

González-Cervera J, Arias Á, Redondo-González O, Cano-Mollinedo MM, Terreehorst I, Lucendo AJ. Association between atopic manifestations and eosinophilic esophagitis: A systematic review and meta-analysis. *Ann Allergy Asthma Immunol.* 2017;118(5):582-590.e2. doi:10.1016/j.anai.2017.02.006  
Disponible en: [https://www.annallergy.org/article/S1081-1206\(17\)30108-4/fulltext](https://www.annallergy.org/article/S1081-1206(17)30108-4/fulltext)

## Abstract

**Background:** Eosinophilic esophagitis (EoE) has repeatedly been associated with atopic manifestations, which are reported more frequently in these patients than in the general population.

**Objective:** To systematically assess the evidence and strength of the associations between EoE and atopy.

**Methods:** We performed a systematic search of the MEDLINE, EMBASE, and SCOPUS databases for case-control studies comparing the frequency of atopic diatheses among patients with EoE and control subjects representing the general population without EoE. Using random-effects meta-analyses, we calculated summary estimates, including 95% confidence intervals (CIs), for bronchial asthma, atopic rhinitis, and eczema. Publication bias risks were assessed by means of funnel plot analysis and specific statistical tests.

**Results:** Of the 2,954 references identified, data were collected from 21 studies, including a total of 53,542 patients with EoE and 54,759 controls. The criteria for defining a diagnosis of atopy in patients with EoE or controls was not structurally considered in most of the studies. Overall, allergic rhinitis was significantly more common among patients with EoE compared with control subjects (odds ratio [OR], 5.09; 95% CI, 2.91-8.90;  $I^2 = 86.7\%$ ) as were bronchial asthma (OR, 3.01; 95% CI, 1.96-4.62;  $I^2 = 84.5\%$ ) and eczema (OR, 2.85; 95% CI, 1.87-4.34;  $I^2 = 57.1\%$ ). Food allergies and other atopic conditions were also assessed. No significant publication bias was found for studies dealing with allergic rhinitis and eczema in EoE.

**Conclusion:** Despite pointing to a significant association between atopy and EoE, most of the studies provided no normalized diagnostic criteria for atopy. Further research should provide clear and standardized definitions of such conditions.

## 4.-Systematic review with meta-analysis: the growing incidence and prevalence of eosinophilic oesophagitis in children and adults in population-based studies

Navarro P, Arias Á, Arias-González L, Laserna-Mendieta EJ, Ruiz-Ponce M, Lucendo AJ. Systematic review with meta-analysis: the growing incidence and prevalence of eosinophilic oesophagitis in children and adults in population-based studies. *Aliment Pharmacol Ther.* 2019;49(9):1116-1125. doi:10.1111/apt.15231. Disponible en: <https://onlinelibrary.wiley.com/doi/abs/10.1111/apt.15231>

### Abstract

**Background:** The frequency of eosinophilic oesophagitis (EoE) occurrence is escalating. Current diagnostic criteria recently proposed for the disease, determine that previous estimates of incidence and prevalence are outdated.

**Aim:** To gauge the current incidence and prevalence of EoE by performing a systematic review of population-based studies.

**Methods:** Three electronic databases were searched from their inception dates to September 2018. A total of 2386 documents were screened; 29 studies reported on the prevalence and incidence of EoE in the general population.

**Results:** The pooled prevalence of EoE was 34.4 cases per 100 000 inhabitants (95% CI, 23.1-47.5), and was higher for adults (42.2; 95% CI, 31.1-55) than for children (34; 95% CI, 22.3-49.2). The pooled EoE incidence rates were 6.6/100 000 person-years (95% CI, 3-11.7) in children and 7.7/100 000 (95% CI, 1.8-17.8) in adults. No differences were found between North American and European studies using varied sources of data (insurance and administrative databases compared to hospital-based case series). Subgroup analysis according to risk of bias did not change results significantly. A steady rise in EoE incidence and prevalence rates was observed over time, comparing studies conducted under subsequent definitions for EoE. No significant publication bias was found.

**Conclusions:** In a systematic review and meta-analysis, we found a sharp increase, higher than previous estimates, in the incidence and prevalence of EoE in population based studies. Results from studies carried out in developed countries show broad consistency and provide evidence of increasing pooled prevalence and incidence of EoE rates over time.



## 5.-Association between Schatzki ring and eosinophilic esophagitis: a systematic review and meta-analysis

Sarbinowska J, Wiatrak B, Waśko-Czopnik D. Association between Schatzki ring and eosinophilic esophagitis: a systematic review and meta-analysis [published online ahead of print, 2021 Jan 18]. *Eur J Gastroenterol Hepatol*. 2021;10.1097/MEG.0000000000002067. doi:10.1097/MEG.0000000000002067

Disponible en:

[https://journals.lww.com/eurojgh/Abstract/9000/Association\\_between\\_Schatzki\\_ring\\_and\\_eosinophilic.97318.aspx](https://journals.lww.com/eurojgh/Abstract/9000/Association_between_Schatzki_ring_and_eosinophilic.97318.aspx)

### Abstract

**Background/objective:** The involvement of hydrochloric acid in the etiology of eosinophilic esophagitis and numerous reports on its coexistence and interaction with reflux disease, as well as the rings of the esophageal mucosa formed with the advancement of the disease, suggest a potential association of eosinophilic esophagitis with another disorder of esophageal morphology potentially caused by exposure to acid reflux-Schatzki ring. Therefore, it seems reasonable to check the relationship of eosinophilic esophagitis with the coexistence of the Schatzki ring as a potential effect of advanced esophageal trachealization, which is the subject of this systematic review with a meta-analysis.

**Methods:** The protocol of this meta-analysis was performed according to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis. A systematic search of the indexed literature in the MEDLINE and Scopus databases from early to December 2019 was performed to identify all original research articles on the association between the occurrence of the Schatzki ring and eosinophilic esophagitis in adults.

**Results:** Out of 68 searched studies, after the analysis and evaluation of the works, only 4 met the criteria set according to the protocol and were included in the meta-analysis. Based on the performed meta-analysis, no relationship was found between the occurrence of Schatzki ring and eosinophilic esophagitis.

**Conclusion:** The present study did not show a significant relationship between the occurrence of the Schatzki ring and eosinophilic esophagitis in the adult population, which suggests that these are two independent causes of dysphagia in this patient population.

## 6.-Histologic and Clinical Effects of Different Topical Corticosteroids for Eosinophilic Esophagitis: Lessons from an Updated Meta-Analysis of Placebo-Controlled Randomized Trials

de Heer J, Miehlke S, Rösch T, et al. Histologic and Clinical Effects of Different Topical Corticosteroids for Eosinophilic Esophagitis: Lessons from an Updated Meta-Analysis of Placebo-Controlled Randomized Trials [published online ahead of print, 2020 Jul 1]. *Digestion*. 2020;1-9. doi:10.1159/000507571. Disponible en: <https://www.karger.com/Article/Abstract/507571>

### Abstract

**Background:** Topical corticosteroids (TS) have become standard therapy for eosinophilic esophagitis (EoE). However, a variety of drug formulations have been used for which results of histological and clinical responses may be different. We aimed at determining the short-term histologic efficacy of TS for EoE based on randomized placebo-controlled trials and to review clinical response.

**Methods:** We searched MEDLINE, ISI Web of Science, and clinicaltrials.gov for randomized controlled trials (RCTs) on TS versus placebo for active EoE published until June 2019. Treatment effects were calculated as risk ratios (RRs) comparing histologic remission between groups.

**Results:** Nine RCTs (6 budesonide and 3 fluticasone) involving a total of 483 participants were included. A substantial overall effect of TS on acute histologic remission (RR 12.5, 95% confidence interval 6.0-25.9) was found despite varying definitions of histologic response. Indirect comparisons between drug and formulation types showed a trend for a better histologic efficacy of budesonide (RR 13.5 vs. 10.4 fluticasone) and for the orodispersible tablet (RR 46.2 vs. 11.5 suspension, and 10.4 nebulized formula/spray), but only based on small patient numbers. Scores used for clinical response assessment were different between studies, and short-term clinical results were less impressive: significant differences favoring TS were found in 4/9 RCTs (4/6 budesonide, 0/3 fluticasone).

**Conclusions:** TS are effective for short-term induction of histological remission in EoE with less impressive clinical response rates. The mode of drug delivery to the esophagus may be a relevant factor for the degree of histologic remission. Further trials should use uniform assessment criteria and long-term patient-centered outcomes.