

Review: Treatment of gastroesophageal reflux does not improve asthma outcomes

Gibson PG, Henry RL, Coughlan JL. The effect of treatment for gastro-oesophageal reflux on asthma in adults and children. Cochrane Review, latest version 10 Feb 1999. In: The Cochrane Library. Oxford: Update Software.

QUESTION

For patients with asthma and gastroesophageal reflux disease (GERD), do asthma outcomes improve after treatment of the reflux?

DATA SOURCES

Studies were identified by searching the Cochrane Airways Group Register, which included trials found in hand searches of 16 journals; conference proceedings from 3 societies; and MEDLINE, EMBASE/Excerpta Medica, and CINAHL databases. Bibliographies were also checked.

STUDY SELECTION

Randomized controlled trials were selected if adults or children with asthma and GERD were studied; interventions included antireflux measures, H₂-antagonists using standard or high doses, proton-pump inhibitors, cisapride, or surgery; and asthma outcomes of symptoms, lung function, exacerbations, unscheduled physician visits, emergency department visits, hospitalization, airway hyperresponsiveness, treat-

ment preference, or use of rescue medications were assessed.

DATA EXTRACTION

Patient and study characteristics, study quality, and asthma outcomes.

MAIN RESULTS

256 studies were retrieved, and 9 met the inclusion criteria. Study size varied from 11 to 90 patients. 8 studies evaluated adults (mean age 51 y, range 22 to 80 y), and 1 studied children and adolescents. 328 patients overall were studied. 3 studies evaluated proton-pump inhibitors, 3 evaluated H₂-antagonists, 1 evaluated surgery, and 1 evaluated conservative management. Meta-analysis was not done. 7 of the 9 studies showed at least 1 significant outcome, but no consistency was shown across studies. 9 trials measured asthma symptoms: 2 studies showed a reduction in wheezing, 2 reported some improvement in overall symptoms, and 2 reported improvement in nocturnal asthma. 6 trials measured β -agonist use: 3 showed some reduction,

although the clinical significance of the reduction in 1 trial was questionable (reduction in number of puffs/d from 5.9 to 5.2, $P < 0.05$). 7 studies reported FEV₁, and 1 showed an improvement. 5 studies measured evening peak expiratory flow (PEF), and 1 showed an improvement. Daytime PEF was measured in 4 studies; none showed an improvement. 3 studies evaluated airway hyperresponsiveness; none showed an improvement. Outcomes did not differ in the 1 surgery trial.

CONCLUSION

In patients with asthma and gastroesophageal reflux, no convincing evidence shows that treatment of the reflux improves asthma outcomes.

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COMMENTARY

Both GERD and asthma are common, affecting an estimated 20% and 6% of Americans, respectively (1). It is not surprising that these conditions frequently coexist; however, the prevalence of concomitant GERD in patients with asthma, which has varied from 34% to 90% (1), is higher than expected. Because concomitant GERD may be clinically silent (2), it is often unrecognized.

Controversy continues about the utility of screening for and aggressively treating GERD to improve asthma outcomes. If concomitant GERD not only provokes and perpetuates asthma but also accounts for intractable asthma if untreated, antireflux interventions should improve asthma outcomes. However, Gibson and colleagues did not find evidence to support this hypothesis. Randomized controlled trials may have provided mixed results because of selection bias, lack of stratification by asthma or GERD severity, inadequate treatment duration, variations in inclusion criteria, response documentation, or classifying "responder" or "nonresponder" status. The efficacy of prokinetics or H₂-antagonists for GERD is less than proton-pump inhibitors of gastric acid secretion (3), which in patients with asthma, may not achieve adequate acid suppression with standard doses and frequently need to be titrated (2); for these reasons, poor response rates may reflect insufficient acid suppression rather than a lack of relation between GERD and asthma.

More than a century ago, Sir William Osler (4) noted that asthma worsened with a heavy meal consumed at night rather than during the day. We know both diseases frequently occur together, asthma symptoms can be provoked by GERD (2), and some patients with asthma seem to benefit when GERD is treated (1, 2). The review by Gibson and colleagues highlights the need for additional studies to substantiate the clinical impression that asthma outcomes improve with GERD treatment and to identify which patients are most likely to benefit. Large, well-designed randomized controlled trials are warranted to resolve this issue.

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References

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