Empiric treatment of laryngopharyngeal reflux with proton pump inhibitors: a systematic review
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CRD summary
This review evaluated the use of proton-pump inhibitors (PPIs) for the treatment of laryngopharyngeal reflux and found no evidence to demonstrate superiority of PPIs over placebo. Limitations in the reporting of the included studies and review methodology mean that it is not possible to comment on the robustness of the evidence presented or the authors' conclusion.

Authors' objectives
To evaluate the treatment of suspected laryngopharyngeal reflux (LPR) symptoms with proton-pump inhibitors (PPIs).

Searching
MEDLINE, EMBASE, CINAHL and the Cochrane Library were searched for studies published in any language; the search terms were reported. References from relevant articles were also checked.

Study selection
Study designs of evaluations included in the review
Inclusion criteria for the study design were not defined. Prospective uncontrolled and double-blind randomised placebo-controlled trials (RCTs) were included.

Specific interventions included in the review
Studies that evaluated PPIs as an empirical treatment, either alone or combined with an acid suppressant and/or placebo, were eligible for inclusion. The included studies evaluated lansoprazole (15 to 30 mg twice daily), omeprazole (20 or 40 mg once or twice daily), pantoprazole (40 mg once or twice daily), rabeprazole (20 mg twice daily) or esomeprazole (40 mg twice daily). Controlled studies compared PPIs with placebo. The duration of treatment ranged from 4 to 24 weeks.

Participants included in the review
Studies of participants with suspected LPR were eligible for inclusion. No further details about the participants were reported.

Outcomes assessed in the review
Inclusion criteria for the outcomes were not defined. The review assessed symptom scores, laryngoscopic scores, health status, and changes in video-laryngeal grading scores and appearance. Complete symptomatic response was defined by the total resolution of all presenting symptoms of LPR; nonresponse was defined by the persistence of one or more of the initial laryngitis symptoms.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data
extraction. For RCTs, data on the mean and standard error of the mean for symptom score and laryngoscopic score at baseline and end of treatment were extracted. For uncontrolled studies, the outcome and/or response rate were extracted.

**Methods of synthesis**

How were the studies combined?
Differences in outcomes precluded a formal meta-analysis. Details of the studies were tabulated and summarised in the text.

How were differences between studies investigated?
Differences between the studies were apparent from the tabulated details.

**Results of the review**

Twenty-one studies (n=1,092) were included in the review: 6 double-blind RCTs (n=276), 14 uncontrolled studies (n=757) and 1 non-randomised study with a healthy control (n=59).

None of the 6 RCTs showed a statistically significant difference between PPI and placebo in severity or frequency of reflux symptoms. Similarly, there were no differences in change in health status or video-laryngeal grading score and appearances post-intervention. The authors stated that there was significant heterogeneity between the studies in patient selection, study design and outcome measure.

All of the included uncontrolled studies showed a statistically significant improvement in symptoms and laryngoscopic signs after treatment.

**Authors’ conclusions**

The available evidence failed to demonstrate superiority of PPIs compared with placebo for the treatment of suspected LPR.

**CRD commentary**

The review question was defined in terms of the population and intervention only. Several methods were used to search for relevant studies and attempts were made to minimise publication and language bias. Details of the review process were not reported, therefore it is not possible to determine whether methods were used to minimise reviewer error and bias. No validity assessment was reported, details on the participants evaluated in the included studies were limited, and the results of all individual studies were not reported. This means it is difficult to comment on the strength of the evidence presented and the generalisability of the results. The aforementioned limitations in the reporting of this review suggest that this review is unable to provide reliable evidence and that any conclusion should be viewed with caution.

**Implications of the review for practice and research**

Practice: The authors did not state any implications for practice.

Research: The authors stated the need to develop objective guidelines for the diagnosis of LPR.

**Bibliographic details**


**PubMedID**

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.