Gastroesophageal Reflux Disease and Asthma

The Role of Proton Pump Inhibitors

To the Editor:

We read with interest the recent study in CHEST (September 2005) by Littner et al, who demonstrated a significant reduction in the number of exacerbations of asthma and improvement in quality of life using therapy with antireflux medication. Overall, however, there appeared to be little objective evidence of improvement in asthma. We wonder whether the generally negative findings of the study are due to the selection criteria used to define asthmatic patients with gastroesophageal reflux disease (GERD). Both asthma and GERD are common problems, and it is likely that they selected many patients with simple classic asthma and incidental coexisting acid reflux. In fact, reflux diseases related to airways symptoms are not simply defined, as in their study, by the presence of heartburn. Laryngopharyngeal reflux (LPR) is widely recognized as a cause of upper airways symptoms including cough and airway hyperresponsiveness. LPR differs significantly from the symptom complex in a GERD-related heartburn, and we suggest that had a more accurate clinical history of LPR been used to define reflux-related asthma, then the results of the study may have been more positive.

To illustrate the importance of a correct appreciation of reflux disease that is causally linked to asthma, we report the following example. A 31-year-old lifelong nonsmoker presented with worsening control of his asthma. He also gave a history of globus and repeated episodes of loss of voice, which suggested LPR. Heartburn was an occasional symptom. On treatment with omeprazole, 20 mg twice daily for a period of 2 months, the symptoms of LPR settled and his asthma improved. Methacholine challenge showed a provocative concentration of methacholine causing a 20% fall in FEV1 of 0.3 mg/mL on presentation, improving to 9.6 mg/mL after 2 months of twice-daily therapy with omeprazole. As the patient’s symptoms had settled, the patient discontinued therapy with omeprazole. Relapse occurred that was associated with a fall in the provocative concentration of methacholine causing a 20% fall in FEV1 to 1.31 mg/mL. Symptoms of LPR such as globus and dysphonia may be more discriminative of “asthma” responding to therapy with proton pump inhibitors.

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REFERENCES

1 Littner MR, Leung FW, Ballard ED, et al. Effects of 24 weeks of lansoprazole therapy on asthma symptoms, exacerbations, quality of life, and pulmonary function in adult asthmatic patients with acid reflux symptoms Chest 2005; 128:1128–1135

To the Editor:

The letter by Drs. Menon and Morice reporting a case of laryngopharyngeal reflux (LPR) in an asthmatic patient raises questions about the cause of the patient’s symptoms and how best to identify asthmatic patients who are likely to benefit from acid suppressive therapy. First, we suggest that the most likely cause of the patient’s symptoms was frequent intermittent reflux of acid producing exacerbations of globus, hoarseness, presumably cough, and deterioration of asthma. The most likely effect of the proton pump inhibitor (PPI) was to inhibit acid production, reduce the degree of acid reflux, and thereby improve the upper
airway and asthma symptoms. This sequence of symptoms and response is consistent with the main finding of our study, which was a reduction in asthma exacerbations. The main difference was the prominence of heartburn in our study and the prominence of upper airway symptoms in the reported case. However, many patients in our study also had symptoms of globus, hoarseness, and cough, and the patient in the reported case also had heartburn.

Second, the severity of acid reflux and gastroesophageal reflux (GER) symptoms may predict a greater degree of improvement in asthmatic symptoms and pulmonary function in response to a PPI.1–3 Drs. Menon and Morice suggest that the symptom complex associated with LPR in asthmatics with ongoing asthma symptoms would also predict symptomatic and pulmonary function improvement with a PPI. However, atypical GER symptoms such as hoarseness compared to typical GER symptoms such as heartburn have not been obviously more successful in identifying patients whose asthma symptoms are likely to respond to a PPI.3 Our study also examined cough, globus, and hoarseness and found no difference in these symptoms with a PPI. In addition, several randomized, placebo-controlled trials have been inconsistent in demonstrating that a PPI resolves symptoms of LPR. These various observations indirectly suggest that LPR symptoms would not have been substantially more discriminatory than other symptoms such as heartburn in identifying patients whose asthma symptoms and pulmonary function would benefit from a PPI. However, to clarify the role of treatment of LPR to reduce asthma symptoms and improve pulmonary function, a properly performed randomized controlled trial is needed.

Our study suggested that patients with GER whose asthma is treated with an inhaled corticosteroid plus other long-term asthma control therapy such as long-acting β2-agonists are more likely to have a reduction in asthma exacerbations and improvement in asthma-specific quality of life with a PPI.4 A more recent study found that asthmatics receiving a long-acting β2-agonist in addition to an inhaled corticosteroid and/or a leukotriene modifier are more likely to have improvement in morning and evening peak expiratory flow. Clearly, as stated in the penultimate paragraph of our article, more work is needed to identify patients whose asthma is most likely to benefit from acid suppressive therapy.

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References


Influence of Spirometry on Patient Management in Diagnostic Studies Unknown

To the Editor:

In a recent article in CHEST (October 2005),1 Dales et al reported on the influence of spirometry on physicians’ diagnoses of airflow obstruction and the planning of patient management. In a rural setting, the authors documented the physician’s diagnosis before and after spirometric results became available. Physicians reported that, regardless of a change in diagnosis, they would change patient management in 15% of the patients. The management changes were specially directed at counseling patients to stop smoking or at modifying medications. The authors recommended more research on the impact of spirometry on such clinically important end points as changes in diagnosis, management, and patient outcomes.

In our view, this study was directed at the role of spirometry in screening rather than the diagnostic impact of spirometry. All subjects included in the study (mean age, 59 years) visited their primary care physician for any reason and were smokers. A questionnaire was used to assess patients with respiratory symptoms and diseases whose conditions were likely to benefit from review by the physician. No information was presented on the results of physical examinations. In this screening setting, 15% of the physicians would alter their planned management regardless of the outcome of spirometry. The results confirm the conclusion of a review that spirometry should not be used to screen smokers for COPD in primary care because it is not yet known whether diagnosing COPD at an early stage would help patients to stop smoking.

Carrying out spirometry in the primary care setting is justified in terms of test validity, provided that the practice staff has been trained sufficiently.1 However, little is known about the diagnostic impact of spirometry,4 and it is important to get more insight into the sensitivity and specificity of spirometric testing of respiratory complaints in the primary care population. Chavannes et al2,3 reported in a study using simulated cases that spirometry results influence physicians’ decision making by reducing the number of alternative diagnoses, and by increasing the number of appropriate referrals and the use of diagnostic courses of prednisolone therapy. Empirical studies on the additional diagnostic value of spirometry are scarce. Preliminary results of a study by Yawn et al4 demonstrated in an experimental setting that spiro-