

Global Initiative for Asthma (GINA) and its objectives

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Summary

Guidelines for the diagnosis and management of asthma have been available for the past 13 years and are updated regularly. However, asthma guidelines are rarely completely up-to-date because our knowledge about the pathophysiology and treatment of asthma is continually evolving. Guidelines are an increasingly familiar part of clinical practice and may have potential benefits and harms. The potential harms of guidelines can be minimized if they are rigorously developed using evidence-based medicine. Guidelines should identify key decisions and their consequences and should review the consequences of alternative decisions. In addition, guidelines should be simple, user-friendly and widely disseminated. Guidelines evolve over time and their recommendations should be supported by evidence from clinical trials. Evidence-based medicine is the new paradigm but the results and reaction to the recent meta-analysis on house-dust mite control measures highlights the need for care when incorporating such information into guidelines. Newer therapeutic agents such as the leukotriene receptor antagonists are included in the most recent revision of the GINA guidelines, but their position in asthma therapy is not yet fully established. In countries where asthma guidelines have been implemented, there appears to have been a reduction in the prevalence of moderate persistent asthma but no decrease in severe asthma. This indicates that there is still room for improvement.

Keywords: asthma, guidelines, GINA, corticosteroids, leukotriene receptor antagonists, prevalence

Introduction

Asthma guidelines have been available for the past 13 years and are updated regularly. It is important to consider the philosophy of guidelines.

Asthma is an evolving concept (Fig. 1). Over the past 20 years, our approach to the use of β_2 -agonists has changed. In the early 1980s, bronchospasm was considered the main component of asthma, and so most doctors prescribed large doses of short-acting β_2 -agonists. Inflammation of the airways then appeared to become more important and there was a switch of focus away from β_2 -agonists towards anti-inflammatory drugs, including inhaled corticosteroids. Also, studies from New Zealand indicated that overuse of short-acting β_2 -agonists may be dangerous and a fear of them developed. However, not all β_2 -agonists were involved in asthma deaths [1]. In the early 1990s, the first publications on the combined use of long-acting β_2 -agonists and inhaled

corticosteroids appeared [2]. Now our guidelines recommend that both types of drug can be used. This highlights the point that because our knowledge about the pathophysiology and treatment of asthma is constantly evolving, it is difficult for asthma guidelines to be completely up-to-date.

The advantages and disadvantages of guidelines

Overall, more than 1000 guidelines have been issued and this creates an enormous workload for general practitioners. Recently, Woolf *et al.* [3] published a paper on the potential benefits, limitations and harms of clinical guidelines. The authors stated that clinical guidelines are an increasingly familiar part of clinical practice. They have potential benefits and harms, especially if the recommendations are wrong. For example, if guidelines had been introduced in 1955, the mainstay treatment would have been oral corticosteroids whereas today we are well aware of the harmful effects of oral steroids. It is difficult to give guidelines, especially if data is missing. Rigorously developed evidence-based

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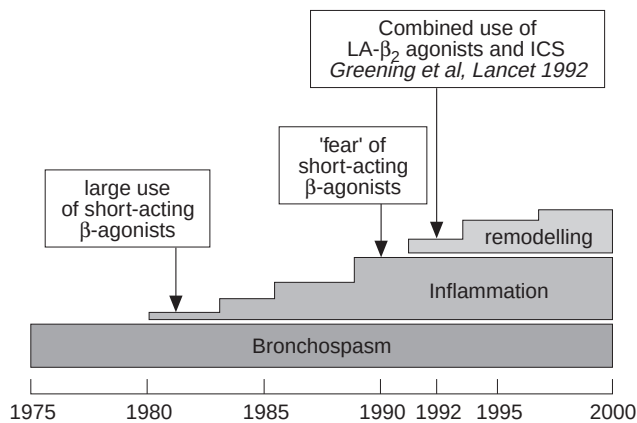


Fig. 1. Asthma: an evolving concept.

guidelines optimize their usefulness [4]. However, this may not be so simple and it must be stressed that clinical guidelines are only one option for improving the quality of care (Fig. 2).

What do good guidelines consist of?

In a recent paper, Jackson and Feder [5] supplied guidelines for constructing clinical guidelines. They reported that one of the key components of a useful clinical guideline was identification of the key decisions and their consequences. In addition, there should be a review of the relevant, valid evidence on the benefits, risks and costs of alternative decisions. However, in some instances, guidelines cannot be supported by published clinical trials. As an example, the severity of asthma was defined in 1995 in the GINA guidelines [6] so that there is, to my knowledge, no published data for patients in step 2 because in clinical trials such patients were not sufficiently well defined. The recommendations are therefore based upon data airway inflammation [7] and the opinion of the expert panel. Another key component of a useful clinical guideline is presentation of the evidence required to inform key decisions in a simple, accessible

format that is flexible, i.e. our practitioners need brief simple guidelines.

The evolution of guidelines

The asthma guidelines have evolved over time. Between 1985 and 1998, the guidelines were based on expert opinion and results of clinical trials. It was said that guidelines should be implemented by adequate trials and interventions. However, for the various sets of guidelines available, including the GINA guidelines, British guidelines [8] and the NAEPP guidelines [9], there is a need for more multi-centre, multicountry trials to fully support the recommendations made.

Nowadays, there is a new paradigm – evidence-based medicine. This may lead to some limitations or adaptations of existing guidelines. However, to date, there has been only one meta-analysis in asthma published and that determined how effective house-dust mite control measures were in the management of asthma in patients sensitive to mites [10]. This was a meta-analysis (Cochrane) of 23 trials investigating the effects on asthma of chemical measures (6) or physical measures (13) to control mites, or a combination of both (4). Usually in such trials, the number of mites or the amount of allergen in the mattress is determined. However, it is equally important to assess how the patient responds to the measures taken. The main outcome measures in the meta-analysis were the number of patients whose symptoms improved, improvement in asthma symptoms and improvement in peak expiratory flow rate (PEFR). The results of this meta-analysis were that 41/113 patients exposed to treatment interventions improved compared with 38/117 in the control groups. The authors concluded that current chemical and physical methods aimed at reducing exposure to allergens from house-dust mite seem to be ineffective and cannot be recommended as prophylactic treatment for asthma patients sensitive to mites. This recommendation is probably the most important recommendation of any guideline in asthma. However, in the editorial accompanying the paper, Strachan [11] stated that the benefits of house-dust mite allergen avoidance in asthma were unproven but could not yet be excluded. Moreover, in a letter, Platts-Mills *et al.* [12] said that the conclusions of the meta-analysis were wrong. This indicates that we have to be very careful when incorporating evidence-based medicine in asthma guidelines.

Importance of meta-analyses

Meta-analyses appear essential to critically assess treatment interventions. However, the method used should be optimal to avoid criticisms. The conclusions of the meta-analysis may not be given by the people who have performed the

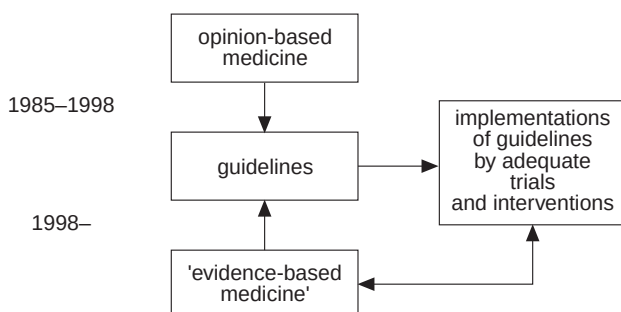


Fig. 2. Evolution of asthma management strategies.

meta-analysis but rather given by an expert panel who have analysed the data and provided conclusions in the context of the disease and of all possible interventions.

Need for simpler guidelines

With regards to asthma guidelines there is a need for a simpler concept. In particular, general practitioners are faced with hundreds of guidelines, each of which is of great interest. Guidelines should be simple, user-friendly, simplified and more largely disseminated.

GINA guidelines: assessing the severity of asthma

GINA guidelines are based on the severity of the disease. The severity of asthma is defined by several criteria, but in untreated patients. However, many of the patients are taking an array of treatments making it difficult to ascribe a severity score and to decide where these patients fit in the guidelines. Severity of asthma is probably a long-term assessment and it must be emphasized that control of asthma differs from asthma severity. Moreover, there tends to be over-reliance on peak flow data for assessing asthma severity. Reddel *et al.* [13] summarized the differences between asthma exacerbations and poor asthma control. They stated that increased variation in PEF is characteristic of poorly controlled asthma and that measurement of PEF variability is recommended for the assessment of asthma severity and exacerbations. However, calculation of diurnal PEF variability fails to detect important changes in lung function in many patients. Thus, we need to be more careful when assessing the severity of asthma.

Leukotriene receptor antagonists in GINA guidelines

Leukotriene receptor antagonists (LTRAs) were introduced into the last revision of the GINA guidelines (December 1998). In the glossary of asthma medications, the data on LTRAs are limited. However, there are no specific adverse effects to date at the recommended doses. Clearly, the position of LTRAs in asthma is not yet fully established. Similarly, the position of long-acting β_2 -agonists still needs some refinement. Further studies and clinical experience are required.

Stepwise approach for long-term management of asthma

Step 1: No long-term prevention needed

Step 2: LTRAs may be considered but their position in therapy has not been fully established.

Step 3: Consider adding LTRAs especially for aspirin and exercise-induced asthma.

Step 4: LTRAs not considered.

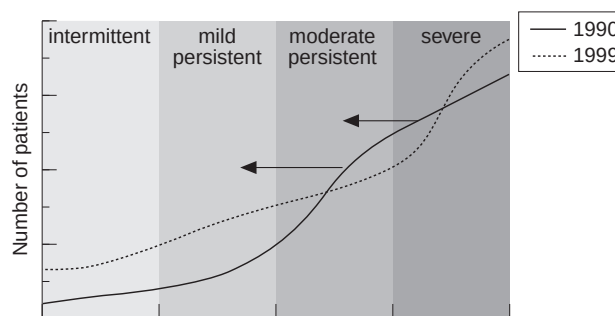


Fig. 3. Evolution of asthma severity in countries where guidelines have been used.

Conclusions

Clearly, guidelines issued by an expert panel should be widely disseminated to specialists, general practitioners, nurses and, very importantly, to patients. Finally, asthma severity appears to have decreased within the past 10 years (Fig. 3) in many countries. The prevalence of asthma has increased, so there are probably more patients with intermittent asthma. However, the prevalence of moderate persistent asthma has probably decreased in countries where guidelines have been issued and implemented. Therefore, there are more patients with mild persistent asthma and less with moderate persistent asthma. More importantly, the introduction of asthma guidelines has not significantly decreased the prevalence of severe asthma. Thus, there is clearly still room for improvement and we will continue to work on the GINA guidelines.

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