

ASTHMA PRACTICE GUIDELINES: COMMON SENSE, EXPERT OPINION OR EVIDENCE BASED APPROACH?

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In recent years, there has been a proliferation of practice guidelines published by various national, international and, most recently, global expert committees on the assessment and treatment of patients with bronchial asthma⁽¹⁻⁴⁾. While there are differences between individual guidelines, there is broad consensus on basic principles and the overall approach. These guidelines would appear to set a "gold standard" against which we should evaluate the current practice in our own institutions.

In this issue of the SMJ, Chee et al reported on an audit of in-patient asthma management in a general medical department⁽⁵⁾. They showed that the quality of the assessment and documentation of disease severity among in-patients with bronchial asthma fell below what might be expected from current recommendations. They also demonstrated that intensive education of doctors improved compliance with a preset protocol and resulted in better documentation. The inference is that better documentation and improved adherence to current practice guidelines would be translated into better patient care and thus outcome in terms of morbidity and mortality. They did not comment however on their observation that improved adherence to preset guidelines was not associated with improved clinical outcome in their patients. This is a conundrum which has emerged as doctors are urged to apply practice guidelines for the management of different aspects of bronchial asthma developed by expert committees. This is an important issue in the strategic deployment of costly resources since bronchial asthma is a common disease with increasing prevalence. Asthma afflicts about 5% of the adult population in Singapore and an even larger proportion of children. In an attempt to keep up with "international standards" of patient care, we should not adopt such guidelines blindly. We should instead examine each recommendation carefully in order to distinguish science from art in the management of our patients with bronchial asthma.

Numerous studies in recent years have shown that, in comparison to what is regarded as "gold standard" practice described in consensus guidelines, patients with asthma are inadequately assessed, under treated and poorly educated⁽⁵⁻⁹⁾. Experts regularly urge more intensive education of both patients and doctors to ensure better compliance with recommended guidelines. By contrast, there are very few studies which formally evaluate the impact of these guidelines on patient outcome in a prospective, controlled and scientific manner⁽¹⁰⁾.

Many facets of practice guideline recommendations are based upon clinical reasoning and experience, intuition or extrapolation from patho-physiologic rationale and not based upon the best external evidence such as randomized controlled trials or meta-

analyses. This constitutes a "gray area" of medical practice with recommendations derived from authority rather than scientific evidence. In recent years, there has been a trend to emphasize the teaching and practice of evidence-based medicine and limit as far as possible the "gray areas" in medical practice⁽¹¹⁻¹⁴⁾. In particular, there should be explicit description of the scientific basis for each specific recommendation, be it a treatment modality, assessment step or educational policy. While an individual doctor may not be cognizant of all the facts pertaining to each and every disease condition, the critical information is usually available in the medical literature. The wide and easy accessibility of medical databases on-line and on CD-ROMs in most hospitals in Singapore should be exploited on a daily basis to practise medicine with the best available evidence.

There is good scientific evidence and a wealth of direct clinical experience for most recommendations of drug treatment in bronchial asthma. The most definitive of these recommendations include the use of inhaled beta-specific agonist drugs and systemic corticosteroids in the treatment of acute spontaneous exacerbations, the administration of inhaled corticosteroids to maintain clinical remission in patients with illness of moderate severity and the utility of long acting bronchodilators in the treatment of nocturnal asthma. Other treatment modalities, though not rigorously proven to be life saving in randomized controlled studies, appear highly efficacious and may be recommended with little reservation. These include the administration of oxygen in severe asthma and the strategy of ventilating with low airway pressures and allowing hypercapnia in a controlled manner (permissive hypercapnic ventilation) in the patients with status asthmaticus who have been intubated and are receiving mechanical ventilation. The merits of other recommendations in particular pertaining to patient assessment and education are less well documented.

Home monitoring of peak expiratory flow rates using portable meters is widely recommended as good clinical practice to enhance self-management, improve compliance with medication, detect and treat exacerbations early and reduce hospital admissions. A controlled study of 68 patients from 25 primary care clinics conducted by the British Thoracic Society showed however, no significant impact of home peak flow monitoring on peak flow levels and asthma control⁽¹⁵⁾. There is also controversy about the best test for detecting asthma severity⁽¹⁶⁾. A recent study suggested that the average minimal morning pre-bronchodilator measurement is the most appropriate while another showed better predictive value using quality control analysis of peak flow charts^(17,18). Yet other studies have shown that the peak flow derived indices are not better than regular assessment of symptoms⁽¹⁹⁾. Thus we have to choose between reliance upon either a simple subjective assessment of symptoms or a sophisticated index of airway function. I submit that until further data is available we should not be routinely prescribing peak flow meters to our asthmatics and think that this is "gold standard" practice.

In the setting of acute severe exacerbations of asthma, most

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published asthma management guidelines recommend that patients use a written action plan describing when and how to change their medication. Patients in general have poor self-management skills and do not possess a custom tailored action plan. Intensive patient education regarding self-management with appropriate action plans have been promoted as an important part of asthma management. It had been assumed that a greater degree of patient involvement, decision making and autonomy would improve control, reduce reliance upon the hospital and thus health care costs. A recent study however showed that while asthmatic patients express a strong desire for more information about their condition, they do not like to undertake unilateral self-management decisions during acute illness and prefer to make a joint decision with their doctor⁽²⁰⁾. This lack of correlation between information seeking and decision making behaviours suggest that the success of self-management and action plan may be limited despite much investment in patient education.

This editorial comment is meant as a cautionary note against rigid adherence to published guidelines. We should critically evaluate each recommendation and separate the grain from the chaff. On the other hand, controlled studies are not always infallible and the practice of evidence-based medicine should not become the new dogma^(21,22). As pragmatic doctors, we should not always insist on scientific purity every step of the way and see the pendulum swing to the other extreme. This would result in therapeutic nihilism when we are faced with uncertainty or incomplete information. We should rather keep a middle path and exercise insightful discrimination in our application of guidelines, complementing our personal experience with developments in the literature and ever mindful of the individual needs of each patient.

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