Asthma Management in 2006: What’s New?

Dr. Christopher Lai

Private Respiratory Physician, Hong Kong.
Editor

Prior to the era of inhaled corticosteroids (ICS), asthma patients in Hong Kong were commonly treated with a combination of oral bronchodilators, with the addition of systemic steroids at the times of exacerbations. Not surprisingly, recurrent hospital admissions were common and indeed, deaths from this disease were rising from the mid ’70s to the mid ’80s1. With the implementation of local and international asthma management guidelines and the increasing use of ICS, asthma mortality rates in the territory have reduced significantly in the past 2 decades, from a peak of 1/100,000 to 0.2-0.3/100,000 in the past few years. However, similar to what is seen worldwide, asthma morbidity is still substantial in Hong Kong. Thus, a significant proportion of patients are having troublesome day-time and night-time symptoms, activity limitations, frequent use of unscheduled health care facilities including visits to clinic doctors, accident and emergency departments and hospitalisation2-4. It is estimated that the direct health cost for asthma in Hong Kong amounted to $US1,000 per patient annually5. These statistics serve as a painful reminder that current treatment strategies are far from adequate, and an urgent revamp in our thinking is necessary.

Paradigm shift

Past guidelines on asthma management have adopted a step-wise approach in treating patients according to their disease severity, with the goals of rendering them symptom-free, unrestricted in daily activities including sports and having normal lung function. These should be achieved with the minimal use of medications that have a high safety profile and without any unscheduled health care use. However, the treatment endpoints were not quantitatively defined and therefore no clear target (such as the HbA1c in diabetes mellitus or serum levels of cholesterol and triglycerides in reducing cardiovascular risks) is available to the clinicians. Thus most patients are left undertreated with preventive medications and therefore suffer unnecessarily from asthma2-4. Using a combination of ICS and a long-acting β2 agonist (LABA), good asthma control (assessed by symptom frequency, rescue bronchodilator usage and lung function) could be achieved and attained in almost 70% of patients in the GOAL study6. By aiming for a defined level of good control, even in patients who failed to do so, their level of control as well as quality of life were considerably better than at the entry of the study. In response to this, revised guidelines have been published in France7 and USA8 emphasising that treatment decisions should be based on achieving and maintaining asthma control and that control should be assessed by a combination of symptoms, degree of activity limitation, use of health care resources including rescue bronchodilators and systemic steroids, and if possible, lung function. Similar revisions are currently undertaken by GINA and a new set of guidelines is expected to be published in late 2006 or early 2007.
A simple and convenient way to assess asthma control has recently been developed and validated. The Asthma Control Test (ACT) comprises a 5-item questionnaire for self-completion by patients aged 12 years or above. These questions focus on the frequency of activity limitation due to asthma, daytime and nocturnal symptoms, use of rescue bronchodilator and self rating of control in the preceding 4 weeks. Researchers in the US have shown that this test correlates well with specialists' rating of control, both in cross-sectional and longitudinal studies. A score of 19 is the cut-off point between well (>19) and not-well-controlled asthma (≤19). A similar test has also been introduced for use in children <12 years. It consists of 4 questions for self-reporting by children and 3 questions for completion by their carers.

Safety of LABAs

Despite the overwhelming evidence supporting the clinical efficacy of combination therapy, concern has continued to be expressed on the safety of LABAs. The US Food and Drug Administration has issued a boxed warning on this class of medications that they could increase the risk of severe asthma-related adverse events including deaths since November 2005. This warning label was prompted by the findings of the Salmeterol Multi-center Asthma Research Trial (SMART) that salmeterol usage was associated with a >4-fold increased risk in the incidence of asthma-related deaths when compared with a matched-placebo over a 28-week unsupervised treatment period. However, this increased risk was only seen in those who were not taking ICS at entry to the study. Other studies, including some with a greater power in detecting the association of LABAs and asthma deaths, have failed to demonstrate a similar finding. It is likely that while unsupervised use of LABAs in patients who are not treated with ICS, especially when their disease is not well controlled, may potentially be detrimental and therefore should not be recommended, its combined use with ICS is safe and effective (reviewed in 13).

New drugs

Two new medications have been introduced in Hong Kong in the past year. Ciclesonide, a once-daily inhaled steroid, is concisely reviewed by Prof. Gary Wong in the Drug Review section of this current issue of the Medical Diary. As it is only converted into an active metabolite by the lungs, ciclesonide is much less likely to cause topical side effects, such as oral candidiasis or hoarseness, than the other currently available ICS. Omalizumab, a humanised monoclonal anti-IgE antibody, has been shown to exert its therapeutic effect on asthma by binding to free IgE and thereby inhibiting mast cell degranulation. Published data have demonstrated this agent, when given once every 2 to 4 weeks subcutaneously, is effective as an add-on therapy in patients with severe persistent allergic asthma whose symptoms persist despite combination treatment with high-dose ICS and LABAs (reviewed in 14). A trial of 16 to 24 weeks is recommended to assess its efficacy. With its anti-IgE properties, this drug may have the potential in treating associated allergic disorders such as rhinoconjunctivitis, urticaria, food and drug allergy. Its prohibitive high cost, however, limits its use to only a small proportion of patients with severe persistent asthma as an add-on treatment and not as a substitute for ICS.

References

11. FDA website - www.fda.gov/derg/drug/advisory/LABA.htm