ASTHMA CARE YESTERDAY, TODAY & TOMORROW

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Yesterday

The progress of asthma care dates back to the 1980s. Asthma mortality data from Australia and New Zealand at that time were the triggering event for these two countries to take a close and serious look at asthma care. That marked the beginning of a paradigm. The conclusions of investigators into fatal and near-fatal asthma attacks then were: inadequate asthma management and treatment, poor medical care, poor patient adherence to therapy, and delays in seeking and receiving care were all preventable factors involved in the fatalities[1].

Australia and New Zealand could be credited for the first breakthrough for improving asthma management. In 1989, the Thoracic Society of Australia and New Zealand developed the 6-Step Asthma Management Plan[2,1].

Since then, asthma practice guidelines using this framework have been produced by many countries. Initially, the information was expert opinion based. Gradually, there has been the incorporation of evidence based medicine into these asthma care guidelines. Singapore has also kept up with the developments. It produced its first clinical practice guidelines on asthma in 1992 on paediatric asthma. This was followed by the 2002 MOH clinical practice guidelines on asthma. The latest guidelines were produced this year.

To address the burden of asthma in Singapore which is 5% of the population, the Singapore National Asthma Program (SNAP) was launched in 2001. One component of the SNAP was directed at improving asthma in the Singapore community by promoting preventive treatment with inhaled corticosteroids. Over the last 7 years, there has been a increase in the use of inhaled corticosteroid as was measured by the preventer-reliever (PR) drug ratio. The average PR ratio rose from 0.68 to 1.80 ($P<0.001$) indicating the successful switch from episodic quick relief medication towards long-term daily preventive treatment with inhaled corticosteroids[4].

Today

Today, asthma guidelines provide information on the approach to diagnosis, environmental control, pharmacologic management, exacerbation management, and patient education[1]. One of the challenges we face today is the need to change the perceptions of both the patient and doctor towards a lower tolerance of poor asthma control. Patients and doctors alike are willing to tolerate poor control of asthma[5].

In Singapore, the latest edition of the asthma guidelines was released in January this year. Country guidelines were released by the US & UK in 2007: the NAEPP (National Asthma Education Prevention Programme)[6] guidelines, and the British guideline by the British Thoracic Society and Scottish Intercollegiate Guideline Network[7]. On the world stage, the GINA (Global Initiative for Asthma) released its latest guidelines in 2006[8,9].

Today, the asthma care guidelines across the world have a consistent common emphasis: firstly the emphasis on asthma control[10] and secondly the incorporation of recent advances in pharmacotherapy into the guidelines[11,12]. These are elaborated in the family practice skills course and in the papers in this issue of the Singapore Family Physician.

As a recap, what is new in the 2008 Singapore Asthma guidelines? The following is a list of major revisions or additions to the 2008 guidelines compared to the 2002 edition[13]:

1) The key change is that asthma management is now focused on achieving control of asthma, rather than on an accurate classification of disease severity into mild, moderate or severe persistent asthma, which was in the previous CPG.
2) A new classification based on control of asthma is now provided: Controlled, Partly Controlled, or Uncontrolled. This is a working scheme of management based on current opinion.
3) The use of a validated, simple and robust tool, the Asthma Control Test (ACT), is recommended for the assessment of control at each clinic visit.
4) Treatment is stepped up or down depending on the level of control achieved. A new treatment algorithm, based on the ACT score, is provided.
5) Clinical quality indices for asthma have been revised and included.

Tomorrow

Into tomorrow the challenging concepts are how best to step down therapy in the patient with mild persistent asthma who are well controlled on medium-dose of inhalational corticosteroids, the role of leukotriene receptor antagonists (LTRAs), use of exhaled nitric oxide as a biomarker to diagnose asthma, the role of environment in asthma, and pathobiological mechanisms in asthma[14]. There are still several pathobiological mechanisms in asthma that are

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unanswered questions. These have been highlighted in an editorial by Charles Reed[15]:

1) Why do a few individuals have asthma but most do not?
2) Why does asthma develop when it does? Is there more we could do to prevent it?
3) Why do many patients recover from asthma spontaneously? Why do they recover when they do? Could we develop strategies to increase recovery?
4) Why do mature individuals more often have asthma that is intrinsic rather than allergic? What are the environmental/ genetic relationships? These patients do not have the family correlation seen in patients with allergic asthma.
5) What are the intracellular pathways of the spectacular (and underinvestigated) variety of airway remodeling called nasal polyps? How are these pathways related to intrinsic asthma and aspirin idiosyncrasy?
6) Why is the airway obstruction incompletely reversible in so many elderly patients, even at the time of diagnosis?
7) Why is the severe obstruction that closes segmental bronchi with mucus plugs localized? What is the cause of localized hypertrophy of the submucosal mucus glands?

The asthma care story is not completely told yet. Whilst researches look for the answers, as clinicians we need to move patients into better asthma control by applying the patient-centred care strategy and by encouraging every patient to adopt the best practice as recommended in the clinical practice guidelines of the day.

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