

SHORT REPORT

IMPLEMENTATION OF ASTHMA GUIDELINES IN SOUTH AFRICA: WHAT ARE THE CHALLENGES?

Robin J Green, PhD

Division of Paediatric Pulmonology, Department of Paediatrics and Child Health, University of Pretoria, South Africa

As we stand at the brink of revisions to existing childhood asthma guidelines for South Africa we need to consider wisely our needs so that we enter into the process with a clear mandate and knowledge of expected outcomes. Simply revising guidelines based on new scientific evidence alone will not necessarily improve outcomes for South African children with asthma.

WHAT IS NEEDED IN NEW CHILDHOOD ASTHMA GUIDELINES?

Many guidelines have been published in the last 2 years for the treatment of asthma.¹⁻³ Two of these have included management principles for children. It seems that asthma diagnosis and treatment is very similar in older children and adults, and it seems appropriate that the principles of asthma management used in adults can be extrapolated to older children, with minor modifications. In this regard all guidelines are clear. It is however obvious to practising doctors that the problem in asthma management of children lies in the diagnosis and treatment of preschool children. This is an age category where problems have been identified but only one of the new guidelines includes an attempt to unravel these problems. Broadly speaking this age group requires attention in two major areas. These are 'diagnosis of asthma' against the background sea of wheeze and chronic cough, and 'management of asthma' based on principles of drug selection and assessment of control and risk to determine success of therapy. New South African guidelines need special focus on the preschool asthmatic.

The new buzz word in asthma guidelines is assessment of control. However, this approach has not been universally accepted. The new National Asthma Education and Prevention Program asthma guidelines³ have suggested a unique new approach that crosses the divide between proponents of asthma severity assessment as a treatment selection approach and proponents of assessment of control as a monitoring tool. Neither tool is, on its own, the ultimate solution. By building in tools for determining risk, we can for the first time hope to solve the problem of unchecked asthma morbidity.

INCLUSION OF NEW THERAPIES AND NEW TREATMENT STRATEGIES

Two new treatment strategies for young children with asthma are being expounded in the literature. The first is the concept of 'episodic asthma' or viral-induced asthma exacerbations which may require only episodic treatment with a leukotriene receptor antagonist.⁴⁻⁶ The second approach which has wide appeal is that of single maintenance and reliever therapy (or SMART). This strategy is only possible with budesonide/formoterol because of the immediate onset of action

properties of formoterol. Both these strategies need serious review because both promote the important outcome of patient adherence.

WHAT ELSE SHOULD GUIDELINES SAY ABOUT ASTHMA?

What is often lacking in conventional asthma guidelines are statements about the lack of success in managing asthma to date. There is now significant evidence from South Africa that both asthma morbidity and mortality are unacceptably high. It may be pertinent to spell this out to practitioners in order to motivate change. Clearly the soft-sell approach is not working.

The new Global Initiative for Asthma (GINA) guidelines have stressed assessment of asthma control as the important end-point of asthma management. They include suggested methods for assessing control but these seem insufficient for assessing asthma in children. Some deficiencies are suggested in Table I. Some useful additional tools may include lung function (including impedance oscillometry) and measurement of exhaled nitric oxide (FeNO).

Table I. Some deficiencies in present asthma guidelines

- Do not stress the importance of measuring inflammation
- Limited by patient/parental recall
- Current pulmonary function tests are often problematic in young children
- No assessment of systemic/extrapulmonary disease status
- Need greater emphasis on monitoring medication side-effects
- Failure to stress non-medication reasons for poor asthma control

The point about systemic inflammation emphasises the importance of treating and controlling other atopic conditions, especially allergic rhinitis. A serious weakness of current South African asthma guidelines is failure to incorporate allergic rhinitis control as an important end-point. While current guidelines mention allergic rhinitis, they do not suggest therapeutic strategies, nor assessment of its control. Uncontrolled allergic rhinitis limits asthma control.

Step-wise increases in asthma severity and medication use create the impression that medication selection is the most important step in asthma control. However, it is now quite clear that in poor asthma control, in most patients the commonest reasons are:

- Poor adherence to regular controller medication
- Inability to use inhaler devices correctly
- Uncontrolled allergic rhinitis

Future asthma guidelines need to stress these interventions as the first port of call in an asthmatic not responding to initial medication.

Correspondence: Prof RJ Green, Department of Paediatrics, University of Pretoria, PO Box 67, Pretoria 0001. E-mail robin.green@up.ac.za

Finally, I would hope that new guidelines balance the assessment of control with that of managing 'future risk'. Future risk includes prevention of exacerbations, death, remodelling, unnecessary cost and medication adverse events. This may mean that immediate symptom control alone is insufficient to predict long-term outcome.

HOW SHOULD WE MAKE THE MESSAGE OF GUIDELINES CLEARER?

At last organisations involved in asthma care in South Africa have woken to the need for more than guideline publication. The National Asthma Education Programme (NAEP) has appointed Prof Bob Mash to analyse and investigate pathways for better implementation of guidelines. This programme known as the 'Guidelines Implementation Project' is now in its second year and great strides have been achieved.

A clear message from this project is that publication of guidelines in the medical press is hopelessly inadequate. In fact guideline implementation requires a partnership of all role players, namely doctors, nurses, pharmacists, funders and government.

A key message here is not to forget the importance of pharmacists in the message of asthma control. The pharmacist dispenses inhalers and other asthma devices and is the ideal person to promote adherence and correct inhaler device use among patients. 'Buy-in' from the Pharmaceutical Council may be necessary to promote pharmacist involvement.

Any guideline is only as useful as the change it brings about in patient-centred asthma control. Ignoring the patient and attempting to drive better asthma control through doctors is bound to fail. Most studies of asthma control have found that patient education is the most important aspect of better control. Once patients are empowered to understand and control their disease, better outcomes are guaranteed.

Finally, all this will be in vain if funders and governments are not brought into the fold. What is urgently required is dialogue with these organisations to

impress the importance of following a single guideline which imparts the best treatments and focusing these players on the importance of cost-effectiveness studies rather than promoting the cheapest range of drugs.

CONCLUSION

It must be obvious that revision of paediatric asthma guidelines is an onerous task. It requires serious consideration and the input of a range of role players. I trust this will happen soon and that we can look forward to truly ground-breaking South African childhood asthma guidelines.

Declaration of conflict of interest

Robin Green is an executive member of the Allergy Society of South Africa (ALLSA), the South African Thoracic Society (SATS) and the National Asthma Education Programme (NAEP), and an advisory board member for the following companies: Abbott, Altana Madaus, AstraZeneca, MSD, Nestlé, Pharmaplan, Roche, and Schering Plough (SPARKS). Speakers' bureau includes Abbott, Altana Madaus, AstraZeneca, Boehringer Ingelheim, Bristol Myers Squibb, GSK, MSD, Roche, Schering Plough and UCB. He has received research funding from Boehringer Ingelheim and MSD.

REFERENCES

1. Global Initiative for Asthma (GINA). Global strategy for asthma management and prevention. Workshop Report. 2006. <http://www.ginasthma.org> (last accessed 26 March 2008).
2. Laloo U, Ainslie G, Wong M, *et al*. Guidelines for the management of chronic asthma in adolescents and adults. *South African Family Practitioner* 2007; **49**: 19-31.
3. National Asthma Education and Prevention Program. *NAEPP Guidelines. Expert Panel Report 3. Guidelines for the Diagnosis and Management of Asthma*. Bethesda, Maryland: US Department of Health and Human Sciences, National Institutes of Health, August 2007.
4. Bisgaard H, Zielen S, Garcia-Garcia MI, *et al*. Montelukast reduces asthma exacerbations in 2-5-year-old children with intermittent asthma. *Am J Respir Crit Care Med* 2005; **171**: 315-322.
5. Robertson CF, Price D, Henry R, *et al*. Short-course montelukast for intermittent asthma in children: a randomized controlled trial. *Am J Respir Crit Care Med* 2007; **175**: 323-329.
6. Johnston NW, Mandhane PJ, Dal J, *et al*. Attenuation of the September epidemic of asthma exacerbations in children: a randomised, controlled trial of montelukast added to usual therapy. *Pediatrics* 2007; **120**: 702-712.