

Achieving asthma control: Providing a framework for clinicians

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Globally, asthma remains a major public health challenge. Although effective therapies are available, a significant minority of patients have uncontrolled disease. In response to this challenge, both nationally and internationally, management strategies have been developed to improve asthma care. A big challenge for an international document, such as the Global Initiative in Asthma (GINA) report, is making it relevant to a particular country or region.^[1]

The newly published updated guidelines for the diagnosis and management of asthma in adults and children for asthma by the Saudi Thoracic Society is an excellent example of how such a document should be created.^[2] As well as providing the fundamentals of asthma care, the report highlights the regional epidemiology of asthma and also the regional phenomenon of sand storms, which an international document, could not hope to capture. In addition, the document captures local regulatory issues such as the fact long-acting beta-agonists are not available in single medication formulations but must always be marketed in a combination inhaler.

The importance of establishing an accurate diagnosis for asthma is complemented by an outline of the sequential approach of taking a detailed clinical history. The need for objective confirmation of the diagnosis of asthma is emphasized, with the use of spirometry including an assessment of reversibility and if necessary, use of inhalational challenge testing to document airway hyper-responsiveness. The diagnosis of asthma is crucial to ensuring asthma mimics, which are outlined in detail in the new report, are not being inappropriately treated.

Like all management strategies, the current document is primarily focused on the stepped care approach to asthma. The fundamental role of inhaled corticosteroids as the foundation therapy for treating asthma severity of all levels is emphasized. The document also recognizes the benefits of the early use of combination therapy with a long-acting beta-agonist and inhaled corticosteroid as opposed to increasing the dose

of inhaled corticosteroids. Use of leukotriene receptor antagonists and theophylline therapy as adjunct therapies is also discussed. The recent regulatory approval of tiotropium as add-on therapy to both inhaled corticosteroids as well as combination therapy is outlined. The incremental benefit of improved asthma control and reduction in asthma exacerbations when tiotropium is added to combination therapy is discussed.

Although the majority of asthma can be classified as mild, these patients remain at risk of an asthma exacerbation. In contrast, severe uncontrolled asthma occurs in about 5–10% of patients but drives about 50% of the cost of asthma. This is a challenging group of patients to manage. A precursor to treating this patient group is to distinguish between actual severe asthma versus uncontrolled asthma based on a number of key scenarios. By far, the most important is the lack of adherence to asthma treatment especially inhaled corticosteroids. Many times, the clinician will make correct therapeutic decision, but the prescription will not be filled or medication only used infrequently. The other common scenario is the patient fills the prescription but uses the medication with improper inhaler technique. These two factors are common to many patients referred to a severe asthma clinic. Additional factors seen include the failure to address comorbidities, especially sinusitis and gastroesophageal reflux. An important masquerade of uncontrolled asthma is vocal cord dysfunction.^[3] This can occur alone or more

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commonly see in conjunction with asthma where its presence suggests a much more severe form of disease. Although not always easy to diagnose, it is suggested by asthma symptoms that are disproportionate to well-preserved lung function and a symptom complex often driven by exposure to irritants such as odors, perfumes, or diesel fumes. The patient typically has difficulty taking a deep breath in as opposed to exhaling which is the more common scenario in pure asthma. The document gives practical framework to identify this and other confounding diagnoses.

Once this assessment is complete and ideally in the setting of a difficult to control asthma clinic, the clinician can consider the use of more expensive options. Historically, this has been limited to omalizumab, a targeted therapy that affects immunoglobulin E levels. More recently, thermoplasty has received regulatory approval and offers a novel treatment option for carefully selected patients who should be treated in centers with appropriate expertise. As we move forward, many novel targeted therapies will become available with mepolizumab, which targets interleukin-5 being the next therapy, which likely will receive approval.^[4] There will follow many other novel therapies, which will become available over the next 5–10 years. The challenge we have with these treatments will be establishing their cost-effectiveness in an environment where health care costs are rising in parallel with an aging population of patients with multiple chronic comorbidities. Robust economic modeling and cost-effectiveness studies will be required to ensure these treatments are used in an appropriate manner.

Although these therapies will bring exciting new options to the management of asthma, we strongly feel that the strong emphasis placed on addressing adherence and proper use

of inhaler devices both in the Saudi document and GINA report are the key to improving asthma outcomes. Although we feel genomics are important, we feel equally strongly that humanomics with its focus on improved patient and physician communication is as important.^[5] This is especially true with the recognition of low-health-literacy levels generally but, especially health literacy and how this impacts patient outcomes. An overarching need for all asthma patients is education with a written action plan, especially with regard to the management of asthma worsening.

In conclusion, the newly updated Saudi document provides an excellent framework for the management of asthma locally in the context of a global evidence base.

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