Asthma: An underappreciated disease with a huge impact on society

Despite an increasing and powerful pharmacologic armamentarium, asthma remains a significant problem in the United States, and to everyone’s chagrin, a disease that definitely is on the rise. Furthermore, instead of decreasing, death from asthma is actually increasing. There are approximately 15 million asthma patients in the United States (Vital Health Statistics, December 1995). A recent asthma telephone survey, designed to determine just how well asthma is being controlled in the United States, clearly shows that more disease control is necessary (Asthma in America. A Landmark Survey, Glaxo Wellcome, Inc., 1999). Of the 15 million asthma patients, more than 12 million have mild or moderate disease, with only a small percentage of patients having severe asthma.

When we carefully review the clinical trials reported in the literature involving patients with mild and moderate persistent asthma, we see that this disease can be substantially controlled, that is, controlled to the point that the patient with persistent asthma has only very mild episodic disease expression. With the use of proper environmental control measures and the use of daily controller therapy, chiefly inhaled glucocorticoid therapy, patients with asthma can live a normal life without missing time from work or school and with their risk of dying of asthma essentially negated.

The aforementioned asthma telephone survey determined that the majority of patients with chronic asthma experienced nightly awakenings from their disease, limitation of exercise, and a substantial amount of time missed from school or work. Their overall quality of life is significantly decreased, and the people who live with them or who know them as friends are also affected by the uncontrolled disease in a negative way. The survey clearly pointed out that this chronic inflammatory disease of the airways is not being treated appropriately. A distinct dissociation existed between how the physicians thought that their asthma patients were being treated and how the patients were actually taking medication.

Many patients with chronic asthma are placed on daily controller therapy, either inhaled glucocorticoid therapy or an oral leukotriene-modifying agent, but they are still extremely dependent on inhaled β2-agonist therapy with more immediate onset and shorter duration of action, such as albuterol. Other data tell us that the number of prescriptions being dispensed from pharmacies for rescue medication such as albuterol are five to eight times that being dispensed for controller anti-inflammatory therapy. If these numbers could be reversed—or if at least a higher amount of anti-inflammatory therapy were being used—then overall control of asthma in the United States would be amazingly improved.

As for many diseases, it is difficult to have our patients use medication on a daily basis if their disease is either asymptomatic or only mild in expression. With asthma, mild disease expression and the need for albuterol therapy have been shown to be associated with serious airway inflammation, airway thickening from chronic inflammation, and a worse long-term prognosis of the disease. So, even the patient with mild persistent asthma should be treated on a daily basis with controller therapy, that is, anti-inflammatory therapy on a daily basis.

The article authored by William A. Rowane, DO, and Michael P. Rowane, DO, MS, beginning on page 259 in this month’s JAOA, offers a unique insight into enhancing overall asthma management by the osteopathic physician. Unlike other articles published on asthma disease management, this article focuses on an osteopathic approach. These authors identify five important areas for enhancing asthma management and certain issues that we often fail to recognize. Many of us tend to tolerate a certain degree of asthmatic disease and expression, and we fail to recognize the minimal instability that can be associated with this disease. One area that we all need to work on is lowering our level of tolerance for asthma symptom breakthrough.

If an albuterol inhaler is being used more than twice a week, that is four puffs, then the disease is unstable and greater concentration must be given to daily controller therapy. It is important to focus on optimizing pharmacologic intervention, but even more so once this is done, concentrating on proper patient medication compliance.

The Drs Rowane then emphasize the importance of strong environmental control measures for asthma. The points that they make are excellent. It is extremely important to minimize allergen exposure in the bedroom, where most of us spend the majority of our time at home, but the home of the asthmatic should be free of cigarette smoke and, for the most part, pets, especially cats.

I applaud the authors for the concentrated effort that they make on exploring a variety of psychodynamic issues. Like many diseases, asthma is influenced by stress and marital discord. We as physicians can play a role in minimizing stress and other psychological factors in our patients with asthma not only by providing appropriate medication but also in helping them find excellent mechanisms for dealing with stress such as family and marital counseling.

Other very important problems include drug abuse, particularly cocaine, and alcohol. Finally, but very importantly, the Drs Rowane emphasize the failure to use nonpharmacologic modes of therapy. They provide an excellent discussion on the value of osteopathic manipulative treatment (OMT), a variety of nutritional issues, and physical training in the management of chronic asthma. Osteopathic manipulative treatment can be extremely valuable in improving respiratory mechanics and possibly relieving dyspnea. I have personally used OMT and found

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it to be an excellent stress reliever, and it certainly instills confidence in the patient who is having breathing distress. I agree with the authors in that most of the database in the osteopathic medical profession has limitations, and we are in need of large well-controlled trials to help us further understand how OMT can benefit our patients with asthma and other chronic airflow obstructive diseases such as emphysema.

I encourage all osteopathic physicians to enhance their awareness for asthma by monitoring airflows in the office and exploring carefully, by taking an adequate history and doing a thorough physical examination, the prevalence of asthma in their practices. Patients with well-controlled asthma will not have breakthrough asthma at night; they will be able to exert themselves without asthma breakthrough during or after the exercise challenge; and they will barely need supplemental use of albuterol for the relief of symptoms.

When peak expiratory airflow is monitored, overall airflow improves and the variability in airflow during each 24-hour time period becomes less. All these clinical parameters, in my opinion, relate to airway hyperresponsiveness and the activity of the airways' inflammatory environment. Use of proper environmental control and daily anti-inflammatory controller therapy should be able to effect control of asthma in the overwhelming majority of the asthmatic patients whom we see in our practices. Remember, what we do does make an impact. Emphasizing the importance of medication compliance is essential.

Finally—and I know that this is redundant—it is absolutely essential that we recognize this disease and treat it appropriately, and when we recognize it, free the asthmatic patient's home of smoke, pets, and other environmental challenges to the asthmatic patient's airways. As osteopathic physicians, we have an obligation to explore the benefit of OMT in the treatment of asthma. I encourage osteopathic physicians to develop and participate in meaningful clinical trials exploring the value of OMT in the management of asthma.

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Beyond the 'box'

Concepts of medical disease and those afflicted shape our approach and our regard for those afflicted. Nowhere is this more evident than in the current medical environment where issues of cost, length of stay, diagnosis-related groups (DRGs), new (expensive) drugs, corporate marketing, and our patients' expectations can shape our very approach to medicine. Each of these issues has expectations that influence our medical decision making. Although such conceptual frameworks can force novel approaches to medicine, they more often impair our ability to develop new and novel approaches to common or troubling disorders.

In one of those inspirational talks that most of us have the opportunity to attend, one of my colleagues challenged our thoughts and behaviors. “We need to think outside the box,” he said, “for it is the box that limits our endeavors!” With that, he began to recount the history of recurrent ulcers. As you can imagine, a group of pulmonologists listening to such information was not a pretty sight, and it sure did not sound like any “box” that we knew. However, his point gradually became clear. “State-of-the-art” concepts once held that ulcers were related to excessive acid secretion and that by treating the acid secretion “problem,” we would solve our patients’ ulcer problem. New, more effective drug regimens emerged. Endoscopy was advocated. And yet, treatment was less than optimal.

Well, one group of researchers “went outside the box” and suggested that recurrent ulcers might have an infectious origin. Heresy it was! Right up until someone tried doing the study (Marshall BJ, Warren JR: Lancet 1984;1:1311-1315). Slowly, the idea caught on, and now, the state of the art includes specific antibiotic regimens. Truly, an idea that originated outside the box of our preconceptions.

Asthma is one of those disorders that has been shaped in less dramatic yet similar ways. In many instances, the keys to unlocking the mysteries were in front of us. In the mid-1970s, the disorder was characterized by bronchospasm and occasional nocturnal symptoms, although most clinicians recognized the prevalence of inflammatory markers and nocturnal symptoms in these patients. During the 1980s, data supported inflammation as a principal component of asthma, and the use of inhaled steroids later became the first-line therapy. New drugs are introduced, new delivery mechanisms—all trying to exploit the most current “concept” of the disease. In so doing, we may be missing opportunities to develop effective integrated conceptual approaches to the treatment of asthma.

In their review beginning on page 259 in this issue of JAOA, William A. Rowane, DO and Michael P. Rowane, DO, MS, have tried to develop an integrated and comprehensive approach to the management of asthma, including several concepts that are somewhat nonstandard. In so doing, they have formulated a truly osteopathic approach to the disease and have indirectly outlined areas of needed investigation. Such directions, applying older concepts in new ways or developing novel management regimens, should be encouraged and supported. For first, we must “think outside the box” before we can effectively “be outside the box.”

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