Sports, Athletes, and Asthma

Winning the Game with Asthma

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Introduction

Asthma, a chronic, usually reversible illness marked by episodes of bronchoconstriction and airways inflammation, would appear, on its face, to be a major enemy of athletic competition. The experience of any number of adults today, particularly those recalling a childhood marked by episodes of asthma, might well flag caution or avoidance of athletics for themselves and their asthmatic offspring. Some physicians, teachers, and coaches, on encountering people with asthma, might choose (either out of expediency or a fear of adverse consequences) to direct them to more sedentary activities or become spectators.

The outstanding accomplishments of many asthmatic athletes, such as Olympic medalists Jackie Joyner-Kersee, Florence Griffith-Joyner, Greg Louganis, Nancy Hogshead, Sam Perkins, and Jeannette Bolden come readily to mind (1). These accomplished athletes, who have to deal with their respiratory problems, suggest that asthma, when competently diagnosed and treated in harmony with an informed and cooperating patient, should not in the great majority of cases deter one from active, even vigorous athletic training and competition.

In early 1991, an expert panel of interdisciplinary asthma specialists appointed by the National Asthma Education Program, a multi-year initiative of the National Heart, Lung, and Blood Institute responded to a rising trend in asthma morbidity and mortality first noted in the late 1970s, and continuing to this day (2). They proposed as one overriding goal of all asthma therapy the maintenance of normal activity levels, including exercise.

For the clinician, a number of considerations will affect the outcome of therapy for pediatric and adult asthma patients seeking to pursue sports and vigorous exercise: the severity of asthma, the presence of allergies, environmental conditions, the occurrence of exercise-induced asthma (EIA; also called exercise-induced bronchospasm, or EIB), and other concomitant medical disorders.
Asthma’s Impact on Sports and Athletics

The confluence of asthma and athletics is significant. Official estimates of total asthma prevalence in the US range between 9 and 12 million. Other surveys, some predicated on respondents of all ages ever having been diagnosed with asthma or frequent wheezing suggestive of asthma, have put prevalence as high as 20 million (3). Screenings of high school students have reported as high as 10% with previously undiagnosed EIA (4). The prevalence of asthma among US Olympic team members competing in the 1984 Los Angeles Games was pegged at 9% (5). The rate of asthma prevalence per 100 persons in the 12–17 age bracket has been estimated in one national health survey at 5.7, and at 6.9 for the 18–44 age group (6). It has also been reported that as many as 90% of all people with asthma and about 40% of children with allergic rhinitis are susceptible to EIA (7).

Clearly, asthma is a player to contend with in the lives of hundreds of thousands of children, teenagers, and adults for whom athletics and regular, vigorous physical conditioning is a social, educational, or health maintenance need. Because sports and other forms of physical fitness rouse even those who, without culturally-influenced pressure, would choose to remain sedentary, underlying asthma and EIA require careful diagnosis, appropriate therapeutic intervention, undistorted communication between patient and physician, and patient training in pharmacologic and nonpharmacologic self-management techniques.

The Protean Character of EIA

Asthma is a highly variable disease, and EIA is no exception: mild or moderate, occurring in persons complying perfectly with medication regimens, lingering in some after other asthma symptoms have all but disappeared, and reappearing in some who have been symptom-free for years. Some people have EIA without knowing it, have grown accustomed to a decrease in airway function, shortness of breath, and chest tightness following strenuous exercise and then dismissing the problems as “being out of shape” or “just my normal response.” Their symptoms are abnormal responses because in healthy individuals (nonasthmatics) the respiratory system is not hyperreactive with exercise (8).

The history of medical reports describing breathing difficulty for asthmatic individuals while exercising is many centuries old (9). However, the clinical entity of EIA in adults has been advanced in the past few decades (10), and it has been about 30 yr since its description in children (11,12). An intensified interest and accumulation of clinically-useful knowledge about EIA has taken