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The prevalence of reversible airway obstruction in professional football players.

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Abstract: To determine the prevalence of reversible airway obstruction in a group of professional football training camp participants.

All attendees at a Canadian Football League team rookie preseason training camp were invited to participate in a protocol designed to elicit symptoms and signs of reversible airway obstruction (asthma) during the initial preparticipation examination. Those agreeing to the protocol completed a questionnaire containing standardized inquiries about a past history of asthma and the presence of symptoms. Participants then underwent spirometry testing to determine lung function before and after receiving a standardized dose of bronchodilator medication. Players showing evidence of airway obstruction during initial testing and still on the team roster underwent repeat spirometry testing and formal pulmonary function testing during the football season. The follow-up pulmonary function tests were performed to determine those that might benefit from treatment for asthma.

Nineteen of 34 (56%) players agreeing to participate had significant reversible airway obstruction as defined by a 12% or greater reversibility in forced expiratory volume in one second (FEV1), peak expiratory flow rate (PEFR), and/or forced expiratory flow rate between 25 and 75% of forced vital capacity (FEF 25-75). In most participants, the diagnosis was made on the basis of spirometry alone. Of those testing positive during initial inquiry, 88% remained positive on repeat spirometry, and 73% had reversible airway obstruction during more stringently controlled hospital-based pulmonary function testing. Those players treated for previously undiagnosed asthma noted an improvement in subjective athletic performance during the football season.

Based on the remarkably high prevalence of undiagnosed asthma in this group, it may prove worthwhile to test elite football players using lung function parameters.

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