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Title: High prevalence of exercise-induced laryngeal obstruction in athletes with respiratory symptoms

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Body: Introduction Unexplained respiratory symptoms reported by athletes are often incorrectly considered secondary to exercise-induced asthma. We hypothesised that this may be related to exercise induced laryngeal obstruction (EILO). This study evaluates the prevalence of EILO in an unselected cohort of athletes. Methods We retrospectively reviewed the prevalence of EILO in a cohort of athletes (n=91) referred consecutively during a two-year period for asthma work-up including continuous laryngoscopy during exercise (CLE) testing. We compared clinical characteristics and bronchial hyper-reactivity between athletes with and without EILO. Results Of 88 athletes who completed a full work-up, 31 (35.2%) had EILO and 38 (43.2%) had a positive bronchoprovocation or bronchodilator reversibility test. The presence of inspiratory symptoms did not differentiate athletes with and without EILO. Sixty-one percent of athletes with EILO and negative bronchoprovocation and bronchodilator reversibility tests used regular asthma medication at referral. Conclusion In athletes with unexplained respiratory symptoms, EILO is an important differential diagnosis not discerned from other aetiologies by clinical features. These findings have important implications for the assessment and management of athletes presenting with persistent respiratory symptoms despite asthma therapy.