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Physical in-activity: lacking *inspiration* to exercise?

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Case report

A 44-year-old female (BMI: 33.6 kg/m²) presented to the unexplained exertional breathlessness clinic complaining of respiratory symptoms 'like breathing through a straw' during moderate-high-intensity exercise. Patient recall confirmed signs and symptoms since childhood, and until recently, considered her breathing as a 'normal' response to vigorous physical exertion. She described gradual weight gain and a deterioration in physical fitness with increasing age. Eighteen months prior to consultation she appointed a personal trainer to 'get back in shape'; however, despite a significant reduction in body weight (approximately 16-kilograms), she continues to report severe exertional breathlessness, limiting her physical activity engagement. Prior to referral she had undergone a comprehensive work-up including chest radiograph, spirometry, bronchial provocation testing with methacholine and mannitol, fractional exhaled nitric oxide - with no objective evidence of airways disease. An efficacy trial of inhaled terbutaline was ineffective. A continuous laryngoscopy exercise (CLE) test was conducted to evaluate the upper airway response to exercise. In brief, a self-determined incremental exercise test to volitional exhaustion was conducted whilst visualising the larynx using a flexible nasendoscope. At peak exercise a loud inspiratory stridor developed, correlating directly with severe glottic and supraglottic laryngeal obstruction - in keeping with a diagnosis of exercise-induced laryngeal obstruction (EILO) (Figure 1). Breathing control exercises were initiated in continuation of the exercise test and the patient was referred for further non-invasive treatment, including speech and language therapy (SLT) and breathing retraining. Six-months post diagnosis the patient continues to receive SLT however now describes a 'substantial improvement' in her exertional respiratory symptoms and overall quality of life.

Conclusion

Exercise-induced laryngeal obstruction is characterised by temporary closure of the larynx precipitating breathlessness on exertion. Recent research evaluating EILO in adolescents indicates a prevalence between 5-7% and significantly higher (>30%) in selected populations undergoing asthma work-ups in respiratory outpatient settings. A reduction in physical in-activity remains a key global health priority - therefore the importance of securing an early diagnosis and optimising the management of patients reporting exertional breathlessness should not be overlooked.

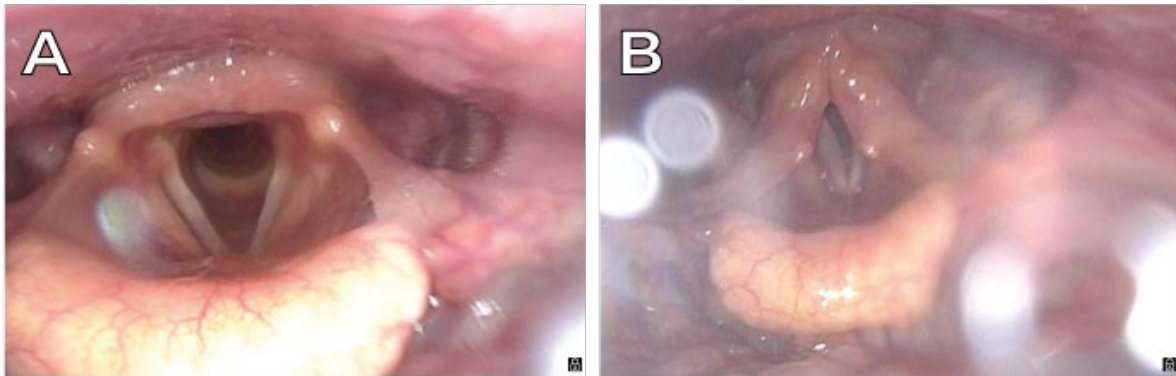


Figure 1: Laryngoscopic images taken during continuous laryngoscopy exercise testing at maximal intensity. (A) expiration; (B) inspiration.