American Academy of Pediatrics
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Ohio Chapter

Sports Shorts

GUIDELINES FOR PEDIATRICIANS

Vocal Cord Dysfunction

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INTRODUCTION

Vocal cord dysfunction (VCD) occurs when the vocal cords fail to properly abduct during breathing. Normally, during inhalation the vocal cords are open and moved away from midline and during exhalation the folds adduct, moving back to midline. With VCD, the vocal cords typically remain at midline during inhalation and sometimes exhalation, which creates an airway obstruction. This manifests as not being able to breathe, or more specifically, a feeling of not being able to get air in to the lungs. Along with shortness of breath, VCD may present as chest pain or tightness, throat tightness or choking and you may hear audible stridor on inspiration. Due to the similarity in symptoms, VCD can sometimes be mistaken as asthma, which can increase morbidity and health care costs due to a delay in diagnosis. Diagnosis of VCD can be difficult because symptoms are highly variable and can be difficult to reproduce. Symptoms are often worse in higher stress environments such as during competition as opposed to practice.

EPIDEMIOLOGY

Vocal cord dysfunction can affect all ages but is most common in adolescent and young adult women.

ETIOLOGY AND RISK FACTORS

The exact underlying cause of VCD is unknown. Possible triggers for the condition include gastroesophageal reflux disease, which can cause inflammation or irritation to the vocal cords or other inhalational irritants from the environment or cold air. Rhinitis with postnasal drip can also act as an irritant. Psychological conditions also can trigger this such as anxiety or panic disorders.

DIAGNOSIS

The gold standard for diagnosis is visualization of the vocal cords via direct laryngoscopy while the patient is symptomatic.

Flexible Laryngoscopy

Pulmonary function tests may be helpful as well and can show flattening of the inspiratory loop with normal expiratory loop.

TREATMENT

Acute management involves relaxation and promotion of normal breathing. If not urgent, the athlete can bend at the waist, crouch, or kneel to promote diaphragmatic. They should inhale through the nose and slowly exhale through pursed lips. Panting or frequent sips of water can also help as can concentrating on making a soft "s" sound during exhalation which helps to reassure the athlete that air is being moved. Occasionally supplemental oxygen or sedatives may be needed if other techniques are not effective.

Much of preventative therapy relies on the athlete's ability to recognize when troubled breathing will happen and to utilize breathing techniques before symptoms begin. Relaxed breathing techniques are first performed at rest and then gradually progressed through different activities with the goal being to perform these techniques during sports participation. Treatment should involve a multidisciplinary team which may include a speech therapist, psychologist, athletic trainer, and the athlete's own parents.

No medications are required for VCD that is not associated with any comorbidities. However, any underlying medical problems such as GERD, rhinitis or anxiety should be treated appropriately. Trying to avoid triggers and treating any environmental allergies may benefit the patient as well.

RETURN TO PLAY

Athletes may return to their sport as tolerated once symptoms resolve. Once the diagnosis is established, education and reassurance alone can help minimize symptoms. However, most athletes benefit from learning and performing breathing techniques that help during activity.

Resources available upon request.

This information is available on the Ohio Chapter, American Academy of Pediatrics' website at www.ohioaap.org