Paradoxical Vocal Cord Dysfunction (VCD) Accompanied With Esophageal Spasms in a Collegiate Soccer Player
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Background: A 19 year-old female collegiate soccer player collapsed at practice complaining of difficulty breathing. The patient also complained of a sharp pain in her chest. The ATC began taking a thorough history, although this was challenging secondary to not only the difficulty with-breathing, but the athlete also had no voice. The athlete reported having a previous history of two similar attacks that she was hospitalized for within the last three years. The athlete also at the age of sixteen she was diagnosed with costochondritis and exercise-induced asthma as an attempt to explain the pain in her chest and troubled breathing. The athlete was taking Advair two times a day regularly and Albuterol as needed for asthma. The bronchodilators had no effect and at times made her symptoms worse when taken during her two prior episodes.

After the initial evaluation, of this episode, it was determined that the athlete was unable to move because of exhaustion so she was transported to the athletic training room. The athlete had trouble talking but she did complain that her fingers were locked in flexion and they felt “tingly”. The athlete continued to complain of difficulty breathing in addition to a throbbing in her chest and a sharp pain in her upper back. After 30 minutes, the patient was transported to the hospital and treated for hyperventilation by EMS. When she arrived at the hospital she was given an IV and her oxygen levels were checked and determined to be normal. Differential Diagnosis: Asthma, Costochondritis, Cardiomyopathy, Esophageal Spasm, Paradoxical Vocal Cord dysfunction

Treatment: A laryngoscope was performed to observe the esophagus and revealed that the patient had esophageal spasms. Indomethacin, Ranitidine, Singular, Claritin, Flexural, and Isosorbide were medications used to relieve the esophageal spasms that caused the vocal cords to adduct. After further investigation, the athlete reported losing her voice about four times a month, which led her physician to believe that her breathing problems were vocal cord related. After being diagnosed by a cardiopulmonary doctor with Vocal Cord Dysfunction, the patient was referred to a Speech Therapist. The athlete was given breathing techniques used to relax the vocal cords which has shown improvement in her breathing while exercising. Her activity level has improved, but is still limited mainly because the esophageal spasms are still causing damage to her vocal cords. Her physician feels that the esophageal spasms must be treated in order for a large improvement to occur, therefore medications are being adjusted to target the esophageal spasms more accurately.

Uniqueness: Many physicians are hesitant to diagnose patients with Paradoxical Vocal Cord Dysfunction because of the other possible diagnoses that mask it. In most cases, similar symptoms are caused by exercise induced asthma. In this case the use of bronchodilators for asthma increased esophageal spasms in the patient. The sharp pain in her back drew doctors away from the VCD diagnose and mislead them to esophageal spasms alone. After further testing the doctors
diagnosed the patient with VCD accompanied with esophageal spasms. The loss of voice is common in VCD patients but is usually overlooked secondary to troubled breathing. **Conclusion:** In order for it to be properly diagnosed the patient must thoroughly explain their symptoms and proper tests, such as a laryngoscope, need to be done. An in depth history must be taken in order to find abnormal symptoms such as the frequent loss of voice. In most cases the athlete’s activity will be limited, but seeing a speech pathologist for breathing techniques is crucial so the patient can perform at their optimal level. **Word Count:** 592