Vocal Cord Dysfunction (VCD)
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Objectives
- To understand the diagnosis of VCD
- To understand the differential diagnoses with VCD
- To know when to refer to Hearing & Speech for VCD evaluation and treatment
- To understand an overview of evaluation and treatment for VCD in Hearing & Speech

Vocal Cord Dysfunction (VCD): What is it?
- NOT Asthma
- NOT Exercise Induced Asthma
- Symptoms do NOT improve with asthma medications
- May have combination: asthma + VCD
- Diagnosis: “exclusions”

Vocal Cord Dysfunction (VCD): What is it?
- Abnormal closing of vocal cords
- Normal breathing:
  - Vocal cords open (inhalation / exhalation)
- VCD:
  - Vocal cords are close together or actually close during breathing
  - Very small opening for air flow
  - Difficulty breathing
  - Increased breathing effort (work of breathing)

Vocal Cord Dysfunction (VCD) Symptoms - Primary
- Chronic cough (leading to shortness of breath) (30%)
- Shortness of breath (75%)
- Difficulty breathing
- Chest tightness / pain
- Throat tightness (25%)/ Choking sensation
  - “Stuck”- can’t get it out; “Lump”
- “Difficulty getting air IN”
- Increased work of breathing

Vocal Cord Dysfunction (VCD) Symptoms - Primary
- Hoarseness / Loss of voice (aphonia)
- Wheezing (46%)
- Stridor (squeaky noise in throat) (43%)
- Hyperventilation Symptoms
  - Feeling faint / lightheaded / dizzy
  - Tingling in extremities (arms / legs / fingers / toes)
  - Tingling around mouth
- Side pains
- Dysphagia (swallowing problems)
Common Co-Mobidities

- Upper respiratory infections
- Thick "phlegm" and / or post nasal drip
- Nasal congestion with / without PND
- Laryngopharyngeal Reflux (LPR)
- Gastroesophageal Reflux (GER)
- Airborne irritants / Chemical exposures
- Fumes / Odors

Common Co-Mobidities

- Smoke
- Asthma
- Allergies:
  - Seasonal / Environmental
  - Animals, Plants (trees, grasses), etc.
- Stress / Emotional triggers
- Singing (vocal strain???)
- Psychogenic co-factors

Inciting Factors (Triggers)

- Upper respiratory infection
- Acute asthma attack
- Cough
- Trauma / Traumatic Life Event
- Endotracheal intubation
- Increased vocal demand
- Increased stress in life
- Inadequate liquid intake

Inciting Factors (Triggers)

- Exercise, particularly running
- Over-Heated
  - August football practice
  - Indoor swimming meets
- Smells / Odors
- Allergy exacerbation
- ** See co-morbidities

Patient Population

- 80 – 90% = Females
- Adults: = large number = medical professionals
- Pediatrics:
  - Large number adolescents (~~ 13 – 17 y/o)
  - High performing (athlete / scholar) – Type A
  - Large number = Asthma + VCD
  - Chronic cough
  - Depressed / anxious / traumatized

Pathway to Diagnosis

- Asthma? Treat with medications
  - Minimal benefit: Increase medications
  - No consistent help
- ED
- Referral:
  - Asthma/Allergy Clinic
  - Ear, Nose Throat (ENT) Clinic
  - Pulmonology Clinic
  - Cardiology Clinic
Pathway to Diagnosis

- Normal chest x-rays
- Normal endoscopic findings (if scoped)
- Referral:
  - Cardiology Exercise Stress Test
    - Rule out obstructive lung component during exercise
    - Rule out cardiac etiology
  - PFTs – abnormal return flow loop

Pathway to Diagnosis

- Other specialists that may be involved:
  - Gastroenterology
  - Psychiatry/Psychology
- Differential Diagnosis:
  - Past Medical History
  - Review Symptoms
  - Medications (+/- benefit)
  - Social History
  - Voice Evaluation

Pathway to Diagnosis: Clues

- Knowing patient population
- Knowing typical VCD symptoms
- Historical Clues:
  - Rapid onset and/or rapid resolution of symptoms
  - Primary: INSPIRATORY symptoms
  - Unusual or unidentified triggers for symptoms
  - “Asthma” difficult to control

VCD Diagnosis

- Confirmed
- Strongly suspected
- Refer to Hearing & Speech
  - Evaluation / Confirmation
  - Treatment
  - Referrals?
- Some refer for Psychosocial evaluation / treatment

Expectations: SLP

- Reinforce diagnosis of VCD
- Patient / Parent Education
  - Foundational: Understanding VCD
  - Foundational: Understanding body & breathing
  - Experiential: How to control body
  - Experiential: Relaxation
  - VCD controls
- Follow up with physician

Psychosocial Aspects of VCD

“Soul and body, I suggest, react sympathetically upon each other: a change in the shape of the soul produces a change in the shape of the body, and conversely: a change in the shape of the body produces a change in the state of the soul.” — Aristotle
Psychosocial Aspects of VCD

• Hypotheses/Research
  – VCD = abnormal control of breathing
  – Breathing = Brain + Lungs
  – VCD = in class of Panic Disorders
    • “Suffocation Alarm”
    • Hyperventilation
    • Fight or Flight arousal
    • ?? Alter VC movement?

• Brain Respiratory Control
  – Respiratory rate & rhythm
  – Monitor: respiratory rate & rhythm
  – ?? Monitor: status of airway??
  – Acts as “Suffocation Alarm”

Psychosocial Aspects of VCD Panic Disorder (DSM-IV)

• Panic symptoms:
  – Palpitations, pounding heart, accelerated heart rate
  – Sweating
  – Trembling / shaking
  – Sensations of shortness of breath / smothering
  – Feelings of choking
  – Chest pain / discomfort
  – Nausea of abdominal distress
  – Feeling dizzy, unsteady, lightheaded, faint
  – Derealization / Depersonalization
  – Fear of losing control or going crazy
  – Fear of dying
  – Chills or hot flashes

SLP Evaluation

• In-depth interview
  – Why here?
  – What are symptoms?
  – When first noticed symptoms?
  – Symptoms vary?
  – How do symptoms make you feel?
  – What are you feeling in your body?
  – Where on body are symptoms experienced?

• Affirm / Validate feelings & fears

• Assure: our treatment works!

• Education
  – Vocal tract
  – Respiration
  – Relaxation
  – VCD controls

• Relaxation vs tension:
  – Diaphragmatic breathing
  – Face
  – Throat / VC’s
  – Shoulders
  – Chest

• VCD Controls:
  – Swallow-Breathe
  – Exercise

SLP Treatment

• Confirmation Dx
• Affirm / Validate feelings & fears
• Assure: our treatment works!
• Education
  – Vocal tract
  – Respiration
  – Relaxation
  – VCD controls

• Often, avoidance behaviors
• Discrete period of intense fear or discomfort (≥ 4 symptoms develop - ** first 5 = primary)