The Role of the Speech-Language Pathologist in Subglottic Stenosis Patients

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Subglottic Stenosis
- Narrowing of the subglottis
- Etiologies
  - Trauma
  - Infectious
  - Systemic
  - Neoplastic
  - Congenital
  - Idiopathic
- Primary symptom: Dyspnea
- Requires medical and surgical management

Observations
- Subglottic stenosis patients with dyspnea out of proportion to exam findings
- Component of paradoxical vocal fold motion as part of patient’s dyspnea
- Referral to SLP
  - Patel et al, 2004
  - 3/30 patients with PVFM had concomitant subglottic stenosis

Questions Raised by Observations
- What symptoms/signs prompted referral to SLP?
- Is SLP intervention helpful?
- Timing of SLP intervention?
Objective and Hypothesis

Objective:
- To assess the role for the speech-language pathologist in patients with subglottic stenosis who may have a component of laryngospasms and/or paradoxical vocal fold motion.

Hypothesis:
- The speech-language pathologist has a role in a subset of subglottic stenosis patients who present with dyspneic symptoms out of proportion to their physical findings.

Study Design
- Retrospective qualitative chart review
- Review of clinical notes and laryngostroboscopic exams of patients with subglottic stenosis in the past 3 years
  - Evaluate MD findings that led to involvement of SLP
  - Comparison of the patient's subjective complaints of dyspnea before and after therapy
  - Comparison of SLP evaluation of patient before and after therapy

Results
- 3 years, 8 patients with subglottic stenosis
- When SLP evaluation occurred
  - 4 patients: Post-MD evaluation +/- intervention
  - 1 patient: At same time of MD initial evaluation
  - 3 patients: No SLP evaluation
- Of these 8 patients, 3 identified for SLP evaluation and management
- Reasons sent
  - Stress would worsen dyspnea
  - Patient interested in alternatives to surgery
  - Symptomatic complaints not proportional to objective findings
  - Short episodes dyspnea above baseline
Results

On SLP evaluation, all three patients had:
- Stridor with exertion
- Stridor with talking
- Clavicular breath support at baseline

2 of 3 stimulable for diaphragmatic breathing*

All patients achieved breathing to ready them for higher levels of exertion
- Pursed lip blow/nose inhale
- Pursed lip blow/dropped jaw inhale

*one patient did not follow-up

All patients taught at rest

One patient taught while voicing
- (other patients did not need this setting)

2 of 3 taught at exertion*
- Walking
- Dancing
- Climbing stairs
- Running

*one pt did not follow-up

SLP perspective: response to treatment

Patients able to manage breathing at higher levels of exertion
Less cueing needed as session progresses and on subsequent sessions

Recommended additional treatment for all patients
- Goal: Achieve higher levels of exertion, independently
Results: Case example
- 62 year old female
- First complaints of dyspnea on exertion in 1993
- Diagnosed with subglottis stenosis 2003
- Diagnoses in process: asthma (but no response to inhalers), inflammatory polyarthritis, GERD, bilateral mastectomy with reconstruction 1997
- First referral to SLP: 2006 – one treatment only
- Second referral to SLP: 2011 – evaluation/treatment + one treatment follow-up
  - Able to climb 3 flights stairs and run by end of second session, then did not follow-up

Discussion: What symptoms/signs prompted referral?
- MD:
  - Stress would worsen dyspnea
  - Patient interested in alternatives to surgery
  - Complaints not proportional to objective findings
  - Short episodes dyspnea above baseline
- SLP:
  - Inspiratory stridor +/- throat tightness with exertion, talking, or anxiety
  - Clavicular breathing
  - Flexed head/anterior to midline posture
    - (Ibrahim et al, 2007)
Discussion: Timing of SLP Intervention?
- SLP evaluation prior to surgery:
  - Counsel:
    - Differential diagnosis
    - Potential for continued behavioural problem
- Second SLP evaluation when stable from subglottic stenosis surgery
- Depending on airway diameter and speed of stenosis process, may hold off on surgery in order to provide SLP treatment
  - If symptoms consistent with PVFM

Discussion: Is SLP Intervention Helpful?
- The SLP has a role.
- With subsequent sessions:
  - Patients required less cues
  - Used dropped jaw inhale instead of nose inhale
  - Patients were able to manage breathing on exertion
    - Walking
    - Running
    - Dancing
    - Stair climbing

Why?
- Subglottic stenosis
- Less air to lungs
- Feeling of less air in
- Goal: get more air in
Conclusion
- Vocal fold adduction in some patients with SGS
- Still don’t know the exact neurologic pathways
- More systems involved than just the vocal folds
- Subglottic stenosis requires surgical and medical treatment
- SLP can be beneficial.
  - Rule out PVFM-like symptoms
  - When dyspnea not consistent with stenosis, empower patients to manage their breathing
    - Decreasing episodes dyspnea and anxiety
    - Retraining neuromuscular physiology

Thank you!
References