Speech and Swallowing in Scleroderma

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Speech Production

• “Normal” Speech
  – Articulation / Pronunciation
  – Phonation / Voice
  – Respiration / Breathing
  – Resonation / Nasality

Speech Problems

• Xerostomia (dry mouth, ↓ saliva flow), often seen in Sjögren’s syndrome → Difficulty pronouncing sounds
• Microstomia (↓ mouth opening) → Difficulty pronouncing sounds
• Collagen build up → Difficulties with voice quality, Breathing issues
Speech Management

• Stay hydrated!
• Use your voice well – be careful, avoid straining your voice
• Avoid noisy areas
• Speak slowly but naturally
• Stay well rested
• Consider speech therapy

Swallowing Definitions

• **Dysphagia**: disruption of normal swallowing process
• **Penetration**: entry of material to laryngeal vestibule
• **Aspiration**: entry of material to trachea, below level of vocal folds (VF)
• **Bolus**: food after it’s been chewed, ready to swallow
• **Assessment**: Clinical Dysphagia Assessment
  – Videofluoroscopic Swallow Study (VFSS)
  – Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

Anatomy of Swallow

• Oral cavity: Lips, tongue
• Nasopharynx
  – Soft palate, Posterior pharyngeal wall
• Pharynx
  – Laryngeal cartilages
  – Bone . . . Hyoid, Mandible
  – Laryngeal muscles
• Esophagus
Physiology of Swallow

• Oral phase
  — lasts about 1 second
• Pharyngeal phase
  — lasts less than 1 second
• Esophageal phase
  — lasts from 8 - 20 seconds (dependent on bolus consistency)
The normal swallow (VFSS)

Swallowing Assessment

• “he’s choking”
• “he swallows fine, he just coughs alot”
• “there’s something stuck in my throat”
• Usually completed by SLP
• May be GI, Dietitian involved

Swallowing Assessment cont’d

• Clinical signs of aspiration risk
• Where is the swallowing problem?
  — Oral, pharyngeal or esophageal
• Indications for Instrumental Exam
  — Symptoms inconsistent with clinical findings
  — Contribute to possible medical diagnosis
  — Determine if dysphagia contributing to nutritional or pulmonary compromise
  — Safety or efficiency of swallowing is a concern
  — Guide management
Purpose of Swallowing Assessment

- Promote good health
- Improve quality of life
  - Ability to enjoy food and beverages
  - Imposed dietary restrictions
  - Social nature of eating/drinking
- Prevent life-threatening conditions
  - Malnutrition
  - Dehydration
  - Pneumonia

Dysphagia & Aspiration Pneumonia (Langmore, 1998)

- Colonization (altered oropharyngeal flora)
- Aspiration into lungs
  - Larger volume aspiration
  - Microaspiration
- Host resistance
  - Pulmonary clearance
  - Systemic immunologic response
- Pneumonia

VFSS

- Accepted standard for detecting & evaluating swallowing abnormalities
- Dynamic view of oral cavity and pharynx, cervical esophagus
- Side and Front views
- Barium mixed with food/liquid
- Clinician judgement
Swallowing Problems

- Xerostomia → difficulties with dry foods, bolus formation/transit
- Microstomia → difficulties biting, chewing, placing dentures, hygiene
- May see pharyngeal issues, including retention, aspiration, and UES incoordination (especially with prominent esophageal dysmotility)

Swallowing Problems cont’d

- ↓ tension for esophageal contractions → Poor esophageal motility (lower 2/3), especially for solid foods > liquids
- ↓ Lower Esophageal Sphincter pressure → Reflux (Reflux Esophagitis, LPR)
- Esophageal atrophy, fibrosis, strictures

Swallowing Problems cont’d

- ‘Globus’ sensation – symptoms referred to throat, making you feel like there’s something stuck
  – Needs further assessment
Barium Swallow Examples

- Scleroderma esophagus peptic stenosis as seen in a double-contrast examination of the esophagus

VFSS Examples

- Laryngeal penetration (thick arrow) or tracheal aspiration (thin arrow) may occur as a result of post swallow stasis in the valleculae – See more at: http://www.oralcancerfoundation.org/complications/dysphagia.php#sthash.XyjC166j.dpuf

VIDEO

- Penetration
VIDEO

• Aspiration

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Therapeutic Intervention

– Exercises
– Postural changes to alter bolus flow
– Optimal oral hygiene, saliva substitute
– Diet modifications
– Alternative eating
– Reflux management (conservative, medical, surgical)
– Esophageal dilation

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Resources

• Speech-Language & Audiology Canada http://sac-oac.ca/
• Canadian Association of Gastroenterology http://www.cag-acg.org/
• Canadian Digestive Health Foundation http://www.cdhf.ca/
• Dietitians of Canada http://www.dietitians.ca/