Allergy

- Chronic rhinogenic laryngitis
  - Inflammation of the larynx resulting in related signs and symptoms that last for at least 2 weeks
  - Hoarseness, throat clearing, straining, globus, odynophagia, cough; may be seasonal
  - Krouse and Altman (2010): Pharyngeal dryness and post-nasal drainage leading to mucosal irritation of the larynx and pharynx => itching/tickling of the throat => throat clearing and coughing
  - Laryngeal exam: increased, thick mucus in the endolarynx that can bridge the vocal folds, mild vocal fold edema, mild to moderate erythema of the arytenoid mucosa
Rhinogenic laryngitis

Inhalant antigen or irritant exposure, Sinusitis

- Nasal congestion
- Runny nose
- Postnasal Drainage

Pharyngitis/Laryngitis
- Throat Clearing
- Coughing
- Vocal fold edema
- Dysphonia
- Upstream mucous migration

Pulmonary congestion
- Bronchospasm, coughing
Rhinogenic laryngitis

- **Inhalational challenge studies**
  - Patients with documented allergy to house dust mites underwent direct inhalational challenge of the larynx with aerosolized antigen in increasing concentrations
  - With increasing antigen exposure, patient developed cough, throat clearing, dyspnea, increased mucus in larynx

Leukoplakia

- Chronic irritation, hyperkeratosis
- 8 – 14% chance of malignant transformation
  - Increased risk with presence of dysplasia
- Tissue diagnosis to rule out malignancy
Malignant disease

- Risk factors – h/o tobacco, EtOH, laryngeal papilloma
- Symptoms
  - Hoarseness, pain, dysphagia/odynophagia
  - Malignancy of true vocal cords – late to metastasize
  - Constitutional – fevers, weight loss, night sweats
- Treatment: surgical, chemoradiation
Vocal cord paralysis

- Often a weak, breathy voice
- Must look for underlying cause
  - Iatrogenic – recent surgery (thyroid, CEA, anterior cervical disc, thoracic)
  - External compression – neck mass, thyroid disease, lung CA, brain tumor
  - Malignancy
  - Blunt trauma
  - Idiopathic
- If history is negative, workup typically includes CT head, neck and chest
Vocal cord paralysis

- Treatment
  - Indications
    - Dysphonia affecting QOL
    - Inefficient cough, risk of aspiration
  - Observation with voice therapy
    - Better long-term voice outcomes with early intervention
Vocal cord paralysis

- Treatment
  - Injection laryngoplasty
    - Good option if recovery is possible
    - 175 patients with dysphonia, unilateral paralysis
    - 35\% underwent injection laryngoplasty, 65\% observation +/- voice therapy
    - 26\% of treatment group ultimately had permanent intervention vs 66\%
  - May use autologous fat, gelfoam, synthetic fillers

- Medialization thyroplasty
  - Only for cases of permanent paralysis

Clinical practice guidelines 2009

- Strong recommendations
  - Clinician should NOT routinely prescribe antibiotics
  - Clinician should advocate voice therapy for patients with hoarseness that reduces voice-related QOL

Schwartz et al. Clinical practice guideline: Hoarseness (Dysphonia). Otolaryngology - Head and Neck Surgery 2009; 141:S1
Clinical practice guidelines 2009

- Recommendations
  - Clinician should diagnose hoarseness in a patient with altered voice quality, pitch, loudness, or vocal effort that impairs communication or reduces QOL
  - Clinician should assess the patient with H&P for factors that modify management such as: recent surgery, recent intubation, XRT, h/o tobacco use, occupation
  - Larynx should be visualized when hoarseness fails to resolve by a MAXIMUM of 3 months, or irrespective of duration if serious underlying cause is suspected
  - Clinician should NOT obtain CT or MRI prior to visualizing larynx
  - Clinician should NOT prescribe anti-reflux medications for hoarseness without signs/symptoms of reflux
  - Clinician should NOT routinely prescribe steroids
  - Clinician should visualize larynx before prescribing voice therapy and communicate findings to SLP
  - Clinician should prescribe or refer for botox injections for treatment of hoarseness caused by adductor spasmodic dysphonia

Schwartz et al. Clinical practice guideline: Hoarseness (Dysphonia). Otolaryngology - Head and Neck Surgery 2009; 141:S1
Clinical practice guidelines 2009

• Options
  • Clinician may perform laryngoscopy at any time in a patient with hoarseness, or may refer to a clinician who can visualize larynx
  • Clinician may prescribe anti-reflux for patients with hoarseness and chronic laryngitis
  • Clinician may counsel patients about control/preventive measures

Schwartz et al. Clinical practice guideline: Hoarseness (Dysphonia). Otolaryngology - Head and Neck Surgery 2009; 141:S1
Otolaryngology workup

• Visualization of the larynx
  • Mirror exam
  • Laryngoscopy
  • Videostroboscopy
Fiberoptic laryngoscopy
Laryngoscopy
Videostroboscopy

- Allows visualization of vocal cord vibration
- Strobe light synchronized to frequency of voice to allow observation of mucosal wave in slow motion
- Mucosal wave originates upon contact of vocal cords, moves from medial to lateral
- Increases sensitivity of exam, aids in diagnosis of pathology such as vocal cord scarring, differentiation of pathology (ie polyp vs cyst)
Videostroboscopy
Conclusions

• Hoarseness and voice disorders can have a significant impact on quality of life, productivity in workplace
• Timely diagnosis and treatment is important both in cases of benign and malignant pathology
• Visualization of larynx is essential for diagnosis
• Never too early to consider visualization, particularly in high-risk patients
• Visualization should always be performed within three months of onset of symptoms