Vocal Fold Leukoplakia and Dysplasia

History, Anatomy and Pathophysiology

The relationship between vocal fold leukoplakia and laryngeal carcinoma was described in the 1880s, however, it wasn’t until 1963 that Kleinsasser developed the first systematic classification of precancerous lesions. Currently, most dysplastic vocal fold epithelial lesions are classified using the Ljubljana or the WHO system. Clinically defined lesions of the keratinized squamous epithelium include leukoplakia, erythroplakia, and erythroleukoplakia. Cytologic and architectural changes without evidence of invasion are defined as dysplasia, and are further divided into three categories: mild, moderate, and severe. There is an increase in the risk of carcinomatous transformation, ranging from 11-32% with increasing severity of dysplasia. However, even leukoplakia without dysplasia carries an increased risk of malignant transformation. More recent studies have evaluated cancer pathway genes and long non-coding RNAs to better understand vocal fold tumorigenesis.

The WHO grading system for oral and laryngeal precancerous lesions. a. Benign hyperplasia (benign keratosis), b. mild dysplasia, c. moderate dysplasia, d. severe dysplasia, e. carcinoma in situ.

• Kostev K, et al. Association of laryngeal cancer with vocal cord leukoplakia and associated risk factors in 1,184 patients diagnosed in otorhinolaryngology practices in Germany. Molecular and clinical oncology 8:689-693, 2018

Assessment

Common Assessment tools:
• Flexible Laryngoscopy
• Videostroboscopy
• Microlaryngoscopy

Less Common Assessment tools:
• Contact endoscopy
• Fluorescence staining

Treatment

Common treatments:
• Active Observation
  • Diet changes and acid reflux control
  • In office laser
• OR microlaryngoscopy: cold knife vs laser excision/ablation
Less Common treatments:
- Vitamin A derivatives
- Photodynamic therapy
- Radiotherapy

Treatment Algorithm
  - See also Koss SL, et al. for treatment algorithm