



Vocal Fold Leukoplakia and Dysplasia

Definition

Leukoplakia, which means “white patch” in Greek, refers to any white-colored spot on the mucous membrane, the smooth tissue that lines the mouth, throat, voice box, vocal folds, and other areas. The white appearance of the leukoplakia is due to the increased growth of the cells that make up the surface of the mucous membrane. Although increased cell growth can be related to trauma or irritation, abnormal cell growth is called dysplasia, a condition that can progress to cancer. Leukoplakia is a term used to describe white patches we can see with our eyes, while dysplasia can only be seen using a microscope to analyze the nature of the abnormal growth of the cells.

Not all leukoplakia has dysplasia, and not all dysplasia appears as leukoplakia. Dysplasia can also result in different appearing lesions such as erythroplakia, “red patch”, and erythroleukoplakia, “red and white patch”. Dysplasia is usually described as low, moderate, or high-grade. Low-grade dysplasia has a lower risk of turning into cancer, and high-grade has a higher risk.

Risk Factors, Symptoms, & Diagnosis

Risk factors for developing vocal fold leukoplakia and/or dysplasia include smoking, alcohol consumption, acid reflux, and genetic factors. While some patients with vocal fold leukoplakia don’t have any symptoms, others can develop hoarseness or raspiness of the voice, vocal strain, and vocal fatigue. The diagnosis leukoplakia is made by examining the larynx using a laryngeal mirror, flexible laryngoscope, rigid or flexible videostroboscopy in the office, or microlaryngoscopy or contact endoscopy in the operating room, sometimes with the aid of special stains that highlight the dysplastic areas. The diagnosis of dysplasia can only be made by examining a biopsy specimen using a microscope. A biopsy (removal of a small piece of the abnormal area) of the vocal fold leukoplakia can be performed in the office using local anesthesia or in the operating room under general anesthesia.

Treatment

The treatment of vocal fold leukoplakia and dysplasia is tailored to the severity of the patient’s symptoms and the severity of the dysplasia (if present), within the context of the patient’s overall health status. Many cases of leukoplakia without dysplasia or significant voice alteration can be actively observed with interval examinations to make sure the leukoplakia doesn’t grow or develop features concerning for dysplasia. Diet changes and control of acid reflux can frequently eliminate leukoplakia. Some research supports the use of vitamin A-derived medicines to prevent or reverse dysplasia. For leukoplakia that causes significant hoarseness, surgical removal using either precise laryngeal surgical instruments or lasers is the treatment of choice. The old technique of ‘vocal fold stripping’, where the entire covering of the vocal fold is removed, results in severe hoarseness, and is no longer the considered the standard treatment for leukoplakia or dysplasia. For patients with low grade dysplasia, surgical treatment is usually the modality of choice. For patients with high grade dysplasia, surgical treatment is also recommended, however, treatment with photodynamic therapy is also available at some institutions. In-office laser treatments under local anesthesia can be effective for limited leukoplakia or dysplasia, but larger areas usually require treatment under general anesthesia. Patients with 2 or more recurrences of severe dysplasia, persistent smokers, or patients with high anesthetic risk may be appropriate candidates for radiotherapy. All patients who undergo treatment for leukoplakia and dysplasia require careful follow-up with repeat examinations because the recurrence rate of leukoplakia and dysplasia is relatively high.