Obstructive Reinke’s Edema: An Ominous Benign Lesion
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Abstract
Objective: Reinke’s edema is a benign disease of the vocal folds that can develop into large obstructive lesions that compromise the airway. In some cases, the compromised airway requires urgent intervention. We describe the presentation and management of this cohort and propose a staging system to include obstructive lesions.

Study Design: Retrospective review of 21 patients with severely compromising obstructive Reinke’s edema lesions.

Methods: Retrospective review from two tertiary care centers. All twenty patients underwent surgical intervention with resolution of obstruction and improvement of voice. Two of the 24 patients underwent emergent tracheotomy with subsequent successful decannulation after surgical excision. One patient was presented as an inpatient consultation by another service during airway management. An additional four patients presented to the emergency room in respiratory distress requiring urgent surgical intervention.

Results: While Reinke’s edema is a benign disease of the vocal folds, there is a wide spectrum of clinical severity with the potential for developing airway obstruction requiring surgical intervention. A new staging system of Reinke’s edema lesions will allow for standardization of clinical description.

Figure 1. Grading of Reinke’s Edema Lesions

A) Grade 1 lesions bilaterally. B) Grade 2 bilateral lesions with expanded polypoid lesion occupying 25-50% of the glottic airway. C) Grade 3 bilateral lesions occupying at least 50% of the glottic airway with no apparent compromise of the airway. D) Grade 4 obstructive lesion.

Introduction:
Reinke’s edema (RE) is a benign laryngeal disease involving diffuse polypoid degeneration of the vocal folds, most commonly preceded by chronic tobacco use.[1] Additional risk factors include vocal abuse and laryngopharyngeal reflux. Chronic smoking, laryngopharyngeal reflux and voice overuse result in edema, vascular congestion, and venous stasis within the superficial layer of the lamina propria, known as Reinke’s space. It manifests clinically with a rough vocal quality and lowered fundamental frequency. Although rare, airway obstruction is an ominous and unexpected manifestation of this pathology. We present a case series of severe airway obstruction requiring urgent RE and propose a classification system for universal communication of the severity of disease.

Materials and Methods
Institutional Review Board approval for this study was granted. Patients diagnosed with severe airway obstructive polypoid cords from 2010-2014 were included in this study. Patients with Reinke’s edema but without obstructive airway symptoms were excluded. Demographic data and medical history including tobacco use and use of proton-pump inhibitor medications were collected. Descriptive statistics were calculated and reported as mean plus standard deviation.

Results:
Twenty-one patients were identified with severe airway obstructive polypoid cords. Four men (19%) and 17 women (81%) with obstructive lesions were identified. The mean age was 57.52 with a median of 57. Diagnosis was confirmed via videostroboscopy/laryngoscopy. All patients were active tobacco users with an average pack-year history of 25.6. Fifteen of the patients had a diagnosis of laryngopharyngeal reflux and were on proton-pump inhibitor medications before surgical intervention.

Discussion
Reinke’s edema is a benign laryngeal disease involving diffuse polypoid degeneration of the vocal folds. It is well documented that the patients who are at risk for developing Reinke’s edema are chronic smokers. Vocal abuse and laryngopharyngeal reflux may also play a role in its development.[3] The most common presenting symptom is dysphonia characterized by a rough vocal quality and decrease in vocal pitch. RE is diagnosed by clinical history and evidence of unilateral or bilateral diffuse vocal fold polypsis on laryngovideostroboscopy.

Chronic irritation and insult to the vocal folds as seen with chronic smoking, vocal abuse and laryngopharyngeal reflux result in edema, vascular congestion and venous stasis within Reinke’s space. It is well documented that the patients who are at risk for developing Reinke’s edema are chronic smokers. Vocal abuse and laryngopharyngeal reflux may also play a role in its development.[3] The most common presenting symptom is dysphonia characterized by a rough vocal quality and decrease in vocal pitch. RE is diagnosed by clinical history and evidence of unilateral or bilateral diffuse vocal fold polypsis on laryngovideostroboscopy.

Case Series
Ten (45%) of the 21 patients with these large obstructive lesions presented in an urgent or emergent setting with severe dyspnea and respiratory compromise that required immediate intervention. Ten patients were identified to have an obstructive lesion when undergoing bronchoscopy by their pulmonologist as seen with chronic smoking, vocal abuse and laryngopharyngeal reflux. Chronic smoking, laryngopharyngeal reflux and voice overuse result in edema, vascular congestion, and venous stasis within the superficial layer of the lamina propria, known as Reinke’s space. It manifests clinically with a rough vocal quality and lowered fundamental frequency. Although rare, airway obstruction is an ominous and unexpected manifestation of this pathology. Herein we present a case series of severe airway obstruction requiring urgent RE and propose a classification system for universal communication of the severity of the disease.

Reinke’s edema is diagnosed by videostroboscopy/laryngoscopy with suction and redraping of the vocal folds. The lesion is observed and graded (A-D) according to the degree of expansion and stenosis of the airway. A) Grade 1 lesions bilaterally. B) Grade 2 bilateral lesions with expanded polypoid lesion occupying 25-50% of the glottic airway. C) Grade 3 bilateral lesions occupying at least 50% of the glottic airway with no apparent compromise of the airway. D) Grade 4 obstructive lesion. The classification system allows for standardization of clinical description and improves communication among physicians.

References