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SHORT VIEW SUMMARY

Definition

- Acute laryngitis is a clinical syndrome characterized by a hoarse voice with decreased phonation and voice projection, usually occurring after an upper respiratory tract infection with cough.

Epidemiology

- Approximately 1% of medical care claims are due to dysphonia, with 42% of those classified as acute laryngitis.
- Two percent of individuals with acute respiratory symptoms are diagnosed with acute laryngitis.

- Acute laryngitis is diagnosed more frequently in women (mean age, 36 years) than men (mean age, 41 years).
- More cases are diagnosed in the colder months of the year.

Microbiology

- A viral upper respiratory tract infection is often associated (see Table 60-1).
- Bacterial infections of the upper respiratory tract have also been implicated.
- Unusual causes include tuberculosis, blastomycosis, histoplasmosis, coccidiomycosis, cryptococcosis, and herpesvirus infections of the larynx.

Diagnosis

- Clinical diagnosis is based on the appropriate history and changes of the voice.
- Visualization of the larynx reveals edema and vascular engorgement of the mucous membranes with hyperemic and erythematous vocal folds.

Therapy

- Treatment is based on the underlying cause of the laryngeal pathologic process.
- Often, symptomatic therapy with voice rest, analgesics, and humidification is sufficient.

Acute laryngitis is a clinical syndrome commonly encountered by primary care physicians. The symptoms are often described as the recent onset of hoarseness or a husky voice with decreased voice projection often associated with a dry cough.¹ There may be voice breaks or episodes of aphonia that frequently occur in the context of an upper respiratory tract infection with rhinorrhea and sore throat. The duration of symptoms is difficult to discern from the literature; however, in a study of 80 adults with the common cold, hoarseness was reported for a median of 3 days, and 5.5 days represented the 75th percentile.² Although most reports describe acute laryngitis as a mild and self-limited syndrome, a survey of intercollegiate athletes found substantial morbidity associated with laryngitis.³ These students reported laryngitis significantly more often as a cause of missed practice, compared with cough, nasal discharge, or myalgia, and as having an adverse effect on their athletic performance.

The incidence of acute laryngitis reported in the literature varies and is highly dependent on the research methods used. A study utilizing a large medical claims database found that approximately 1% of people presenting for care did so because of dysphonia, with 42% receiving a diagnosis of acute laryngitis.⁴ In reports including almost 5000 children and adults with acute respiratory symptoms, 2% were given a primary diagnosis of laryngitis.^{5,6} In other studies, 38% of patients with pneumonia reported hoarseness as a symptom, as did 53% of adults with colds and 67% of children with bacterial tracheitis.^{2,7,8} Laryngitis has also been noted in approximately 22% of adolescents or school-aged children with nonstreptococcal sore throat.⁹ Despite this demonstration that laryngitis affects patients of all ages, a report of more than 800 patients seen in an ear, nose, and throat clinic showed that most patients with acute laryngitis presenting for care were women with a mean age of 36 years.¹⁰ In addition, the study showed that the frequency of laryngitis during the colder months was almost double that observed in the warmer seasons.

All of the major respiratory viruses have been etiologically associated with laryngitis. In the study of patients older than 5 years of age with a primary diagnosis of laryngitis, 21% had infection with parainfluenza virus, 15% had rhinovirus, 3% had influenza virus, and 3% had adenovirus.⁵ The risk of developing laryngitis with a particular type of respiratory tract infection is summarized in Table 60-1. McMillan and colleagues⁹ reported that laryngitis and cough were noted significantly more often among patients with influenza (29%) than among patients

with group A β -hemolytic streptococcal infection (2.3%). In a retrospective review of an epidemic of influenza in the United Kingdom, the rate of laryngitis or tracheitis reported by general practitioners peaked at approximately 100 per 100,000 population, coincident with the peak of influenza illness.¹¹ Younger patients were significantly more likely to report hoarseness than elderly subjects in a study of human metapneumovirus infection.¹² Hoarseness was reported in 91% of young adults with human metapneumovirus infection compared with 42% of similar-age subjects with respiratory syncytial virus infection. Acute laryngitis was the primary diagnosis in 3.3% of children from 1 month to 14 years of age hospitalized with acute respiratory symptoms and infection with human metapneumovirus.⁶ Among older adults admitted to the hospital for respiratory disorders, hoarseness was reported by 25% of subjects with illness resulting from rhinovirus or coronavirus.¹³ Hoarseness or laryngitis has not been reported as a symptom in patients with severe acute respiratory syndrome secondary to human pneumonia-associated coronavirus.¹⁴

Bacterial respiratory infections have also been associated with acute laryngitis. Several authors have noted the presence of hoarseness in patients with acute streptococcal pharyngitis (see Table 60-1). Laryngitis secondary to diphtheria has been virtually eliminated in the United States, although diphtheria continues to be an important cause of laryngeal disease worldwide. The possible etiologic role of *Moraxella catarrhalis* (formerly *Branhamella catarrhalis*) in adults with acute laryngitis was investigated in several reports from Sweden. In a case-control study of 40 adults with hoarseness and symptoms of upper respiratory tract infection, 55% of the patients and 14% of controls had *M. catarrhalis* isolated from a nasopharyngeal culture.¹⁵ *Haemophilus influenzae* was the second most frequently recovered bacterial pathogen from patients with laryngitis (8% to 20%), which suggests that organism may also play a role in this condition. However, treatment of patients with *M. catarrhalis* with oral penicillin or erythromycin for 5 days failed to show any objective clinical benefit over placebo, despite a significant rate of bacteriologic eradication, casting doubt on the significance of the association.^{16,17} Infection with *Bordetella pertussis* or *Mycoplasma pneumoniae* has recently been suggested as a cause of chronic laryngitis in a single report of adults with symptoms of hoarseness and throat clearing for more than 6 weeks.¹⁸

Uncommon causes of acute laryngitis include herpesviruses, parvovirus B19, mucosal candidiasis, *Coccidioides immitis*, *Anncaliia algerae*,

KEYWORDS

cough; dysphonia; hoarseness; larynx; viral upper respiratory tract infection

TABLE 60-1 Frequency of Laryngitis Associated with Common Respiratory Pathogens

PATHOGEN	FREQUENCY (%)	REFERENCES
Rhinovirus	25-29	13, 34
Influenza	28-35	9, 13, 34
Parainfluenza	8.5	35
Adenovirus	22-35	36
Coronavirus	25	13
<i>Mycoplasma pneumoniae</i>	3-37	7, 13
<i>Chlamydia pneumoniae</i>	30	37
Group A β -hemolytic streptococcus	2.3-19	9, 34
Human metapneumovirus	3-91	6, 12, 38

Cryptococcus neoformans, *Sporothrix schenckii*, methicillin-resistant *Staphylococcus aureus* (MRSA), and group G β -hemolytic streptococci in normal and immunocompromised patients.^{19-21,22-24,25,26} Clinical findings in patients with laryngitis secondary to herpes simplex virus types 1 or 2, varicella-zoster virus, or cytomegalovirus include edema and inflammation of the glottic or supraglottic region with vesicles or ulcerative lesions with or without vocal cord paralysis.²⁶ Gastroesophageal reflux is a recognized cause of both acute and chronic laryngitis and should be treated when recognized.

Laryngitis secondary to tuberculosis (TB) and blastomycosis is usually a chronic complication of pulmonary infection.^{25,27} Although in the past laryngeal TB was frequently detected in young patients with recognized pulmonary TB, more recent reports have described changes in the epidemiology and clinical features of TB of the larynx. In a study of 31 patients with biopsy-confirmed laryngeal TB, only 55% were referred because of a previous diagnosis of pulmonary TB, whereas 33% had odynophagia or a suspicion of carcinoma.²⁸ The mean age of patients with laryngeal TB was 60 years in a case series reported by Kandiloros and colleagues.²⁹ Historically, patients with laryngeal TB had a large burden of organisms in their sputum. In a more recent study from India, patients with laryngeal TB were no more likely to have positive sputum results than patients with pulmonary TB without laryngeal disease.²⁷ Clinical findings reported in laryngeal TB range from the classic description of cranial nerve palsies with ulcerative

lesions of the posterior larynx to anterior tumor-like masses. Given this changing clinical picture, a high degree of diagnostic suspicion is warranted to make a diagnosis of laryngeal TB.

Laryngeal histoplasmosis is a complication of disseminated infection and manifests as hoarseness of indolent onset without cough. Blastomycosis and histoplasmosis of the larynx can be mistaken for squamous carcinoma because of the indolent onset, gross appearance on laryngoscopy, and pseudoepitheliomatous hyperplasia on biopsy. Fever is low grade or absent. Diagnosis depends on demonstration of the fungi in the submucosa. Hoarseness may also be noted as a component of other laryngeal infections, such as croup, acute epiglottitis, or supraglottitis. These conditions are discussed separately in Chapters 61 and 64. Other noninfectious causes of acute laryngitis include voice abuse, gastroesophageal reflux disease, and laryngeal malignancy.

The diagnosis of acute laryngitis caused by an upper respiratory tract infection can often be made by history alone. Examination of the larynx reveals hyperemic and erythematous true and ventricular vocal folds resulting from edema and vascular engorgement of the mucous membranes.³⁰ Treatment needs to be directed at the underlying infectious cause of hoarseness but generally is symptomatic, with voice rest, analgesic therapy, and humidification.³⁰ As noted previously, studies evaluating the use of antibiotics for patients with acute laryngitis have not shown objective benefit, and a Cochrane Review concluded that antibiotics should not be prescribed for patients with typical laryngitis.³¹

Long-term sequelae of laryngitis are uncommon, but prolonged hoarseness has been noted most frequently after infection with uncommon pathogens. Superior laryngeal neuralgia has also been described as a rare complication of acute laryngitis.³² This disorder is characterized by painful paroxysms of the throat induced by head turning, swallowing, or voice straining and is associated with a trigger point on the lateral aspect of the neck overlying the thyrohyoid membrane. Various treatments, including injections of local anesthetic, have been used to treat this complication. An additional unusual complication of acute laryngitis is idiopathic ulcerative laryngitis.³³ Criteria for diagnosing this condition include a history of a preceding upper respiratory tract infection with cough, the presence of bilateral ulcerations at the mid-membranous vocal folds on physical examination, and a lack of response to treatment with corticosteroids, antibiotics, and antireflux medications. Healing usually occurs over a minimum of 6 weeks with complete resolution of symptoms.

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The complete reference list is available online at Expert Consult.

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