

Flexible Laryngoscopy in Isolated Neurogenic Cough: Institutional Outcomes and Community Practice Patterns

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Introduction

- Unexplained chronic cough is thought to be a sensory neuropathic disorder resulting from vagal nerve dysfunction. It is a diagnosis of exclusion, typically made after other common causes of cough have been ruled out.^{1,2}
- Patients with unexplained chronic cough (neurogenic cough) will often be referred to an otolaryngologist for treatment. The usual workup begins with an in-office flexible laryngoscopy.
- Flexible laryngoscopy is commonly performed by otolaryngologists to assess laryngeal anatomy, identify structural lesions, and evaluate voice and airway complaints. Its value is well established in the workup of hoarseness, dysphagia, stridor, and suspected malignancy, where visualization of the larynx often directly informs diagnosis and management.
- Prior studies have shown that laryngoscopic findings in patients with neurogenic cough are predominantly normal in the membranous folds.^{3,4}
- This study describes our institutional experience with neurogenic cough by quantifying the prevalence of positive laryngoscopic findings in patients evaluated at our center and presents a cross-sectional survey of otolaryngology providers to characterize community practice patterns regarding the use of flexible laryngoscopy in the management of neurogenic cough.

Methods

Part 1:

Design: Retrospective review

- Inclusion criteria required patients to be over 18 years of age with an isolated chronic cough persisting longer than 8 weeks that remained unexplained despite evaluation and exclusion of common etiologies.
- Eligible patients must have either failed prior treatment with proton pump inhibitors (PPIs) and asthma therapies or had undergone workups that ruled out gastroesophageal reflux disease (GERD) and asthma as contributing causes.
- Patients must also have been evaluated with flexible laryngoscopy.

Part 2:

Design: Cross-sectional survey

Setting: Regional CME conference, Tucson, AZ – February 8, 2025

Participants: MD/DO otolaryngologists, nurse practitioners, and physician assistants

Survey Content:

- Provider demographics (training level, years in practice, subspecialty orientation)
- Frequency of chronic cough encounters
- Laryngoscopy use and most common findings
- First-line treatment preferences
- Perceived impact of laryngoscopy on management

Administration: Voluntary and anonymous, based on providers' routine clinical practice and recent patient experiences

Results

Retrospective Review

- 56 patients with isolated neurogenic cough were included in our cohort review. The mean age was 64.6 years (SD = 14.8), and 37 patients (66%) were female.
- The average symptom duration prior to presentation was 64.4 months (SD = 78.2)
- Flexible laryngoscopy showed normal findings of the base of tongue, vallecula, larynx, piriform sinuses, and epiglottis in 53 out of 56 patients (94.6%).
- In the 3 patients with abnormal findings, first line management remained unchanged.

Survey Results:

Respondent Characteristics

Total respondents:

- 55 otolaryngology providers
- 76.8% MD/DO, 17.4% nurse practitioners, 5.8% physician assistants

Experience:

- 70.9% \geq 10 years out of training (60% $>$ 15 years, 10.9% 10–15 years);
- 16.4% \leq 5 years in practice
- 5.5% still in training

Practice type:

- 85.5% comprehensive ENT; 10.9% subspecialty ENT

Chronic cough weekly caseload:

- High frequency (almost always or frequently) - 60%
- Sometimes – 25.5%
- Occasionally – 12.7%
- Almost never – 1.8%

Abstract



Results Cont.

Laryngoscopy Utilization & Impact

- Performed “almost always” or “frequently” by 78.2% of providers
- Influence on management: “Never/occasionally” – 49.1%, “sometimes” – 32.7%, “frequently/almost always” – 16.3%

Findings

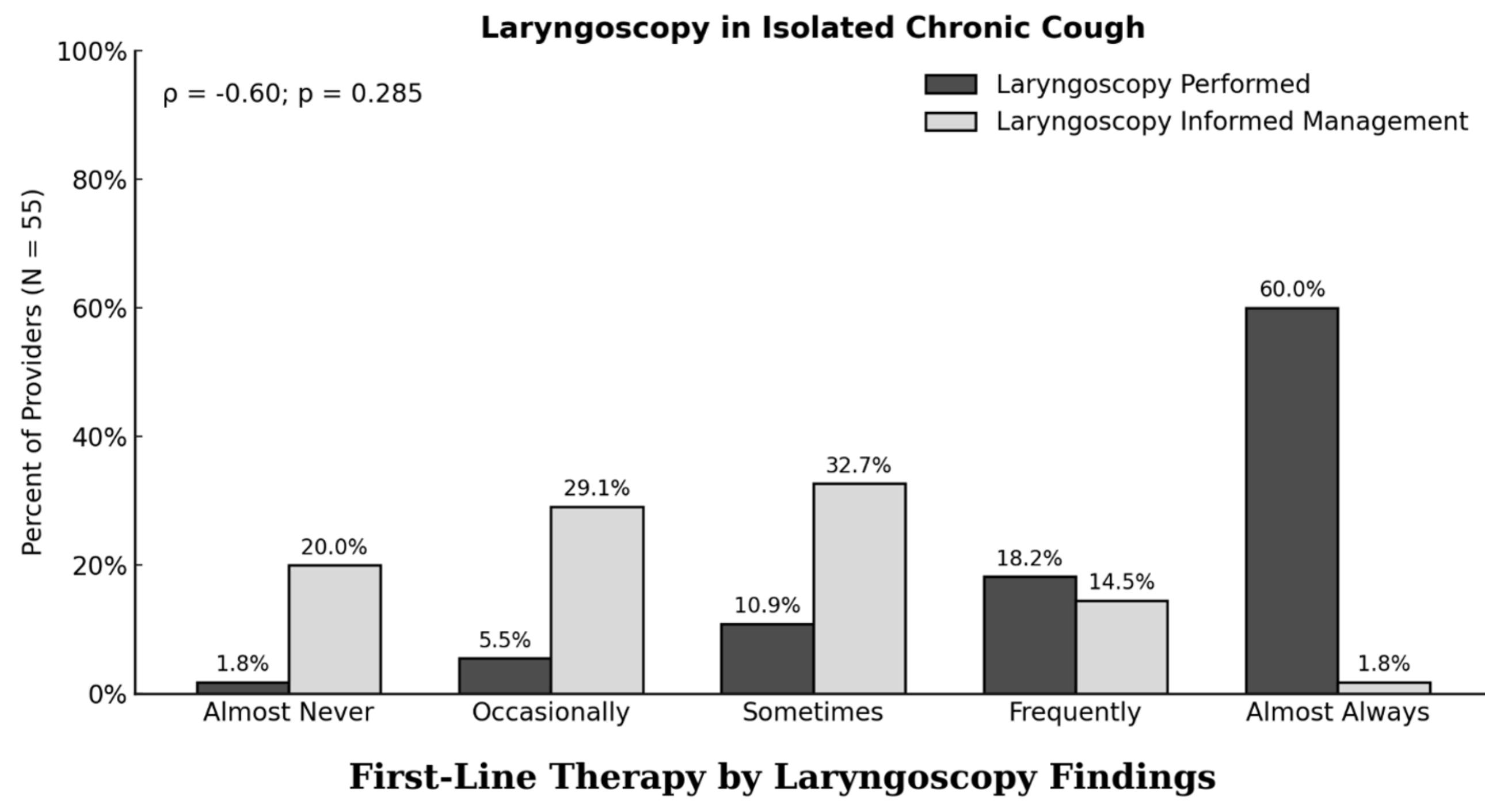
- Positive findings on laryngoscopy for chronic cough in <50% of patients for 74.6% of respondents

Most common laryngoscopy results:

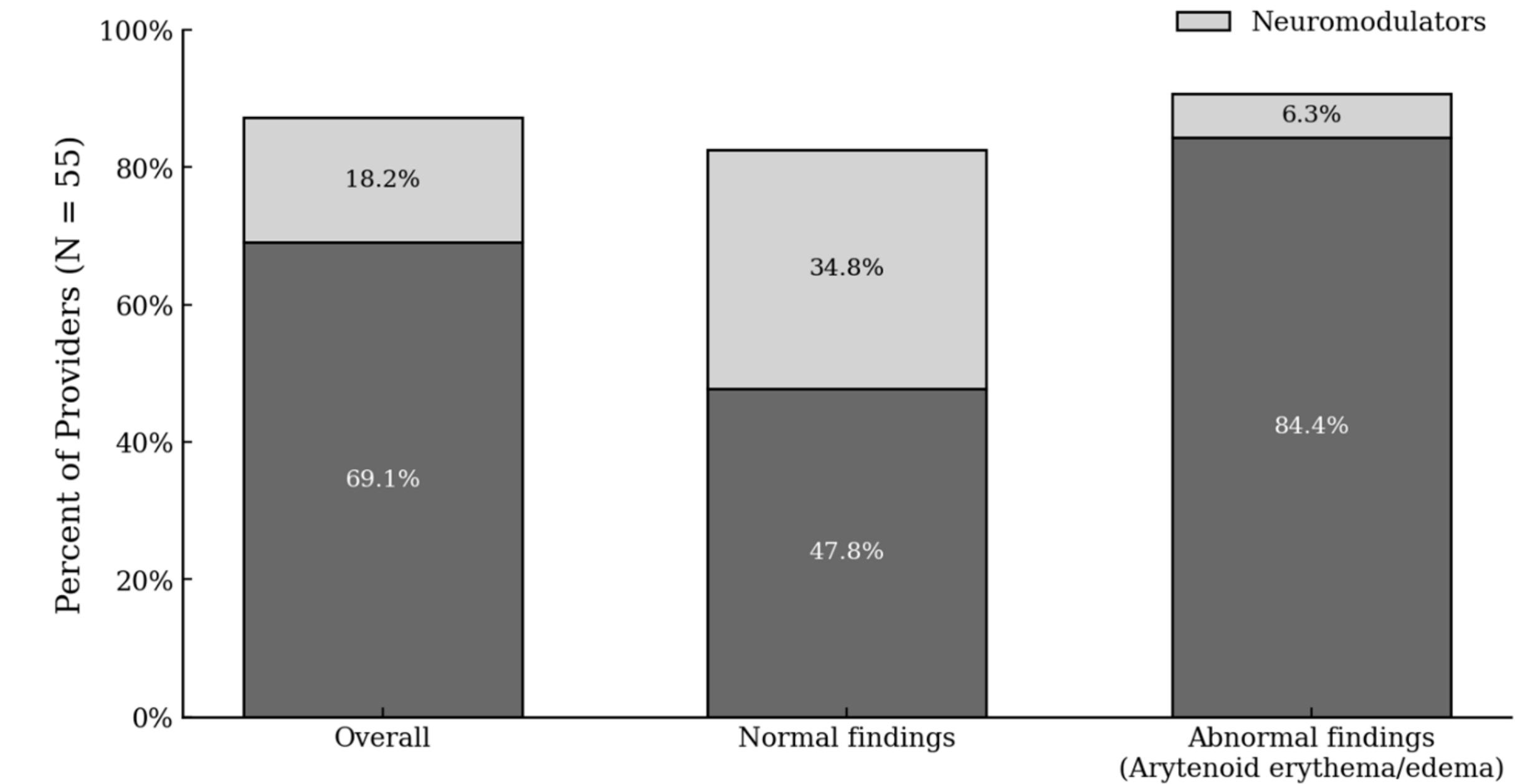
- Arytenoid erythema/edema – 54.5%
- Normal exam – 41.8%

First-Line Treatment Choices

- Proton pump inhibitors – 69.1%
- Neuromodulators – 18.2%



First-Line Therapy by Laryngoscopy Findings



Discussion

- Laryngoscopy in isolated chronic cough has a low diagnostic yield and rarely changes management.
- However, laryngoscopy remains important to definitively rule out malignancy.
- Providers who most commonly reported arytenoid erythema/edema prescribed PPIs at a higher rate than those reporting a normal exam; PPIs were still frequently prescribed after a normal exam, although neuromodulators are recommended as first-line therapy for unexplained chronic cough.
- Medical management also includes speech pathology; current practice often requires otolaryngology examination before starting cough suppression therapy, but our findings suggest therapy could be initiated without prior flexible laryngoscopy.
- Laryngeal erythema or edema, particularly in the interarytenoid region, is frequently observed and often presumed to represent laryngopharyngeal reflux. However, these findings are subjective and have poor diagnostic value for true pathologic reflux.⁵⁻¹⁰

Conclusions

- In our cohort, laryngoscopy rarely identified abnormal findings in patients with isolated neurogenic cough and did not alter management.
- In our provider survey, most respondents reported performing laryngoscopy routinely, though it was infrequently perceived to influence treatment decisions.
- The most commonly reported findings were either normal exams or arytenoid erythema/edema, both of which seldom changed first-line management.

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