

## Factors Influencing Referral of Patients with Voice Disorders from Primary Care to Otolaryngology

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### Introduction

The review is a critical analysis of the article” Factors Influencing Referral of Patients with Voice Disorders from Primary Care to Otolaryngology” published in the Laryngoscope.

In the review of this article, first summary is given, secondly assessment of the print structure is done, keeping in view its layout and reader friendly format. Lastly the aim of the review of this article is towards a critique analysis , evaluating its authority, currency, accuracy, objectivity and coverage. Any tables, graphs, diagrams and illustrations are also analyzed.

### Article Summary

The purpose of this study was to examine the frequency of primary care physician (PCP ) to otolaryngology referral among patients with laryngeal/voice disorders, the factors that influence whether a referral was obtained and the factors that influence the timing of the referral

It was a retrospective analysis of a large, national administrative U.S. database, approved by the Duke University Medical Center Institutional Review Board [1].Patients with a laryngeal disorder based on *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) codes from January 1, 2004 to December 31, 2008, seen by a PCP as an outpatient

(with or without otolaryngology involvement), and continuously enrolled for 12 months were included. Patient age, gender, geographic region, last PCP laryngeal diagnosis, comorbid conditions, time from first PCP visit to first otolaryngology visit, number of PCP outpatient visits and number of PCP laryngeal diagnoses were collected.

Results were analyzed by performing Cox and generalized linear regressions. The discussion include that PCPs are frequently engaged in evaluating and treating dysphonic patients [2]. This article summarizes that 149,653 unique patients saw a PCP as an outpatient for a laryngeal/voice disorder with 90.9% only seeing a PCP, 4.0% referred by PCP to otolaryngologist, and 2.6% self-referred to an otolaryngologist

Multiple comorbid conditions, chronic laryngitis, non-specific dysphonia, and laryngeal cancer had a greater hazard ratio (HR) for otolaryngology referral than having acute laryngitis and no comorbidities. The time to otolaryngology evaluation ranged from < 1 month to > 3 months. PCP referred patients had less time to the otolaryngology evaluation than self-referred patients[ 3]

## **Article Structure**

The article is available as PubReader; **ePub (beta) & PDF (93K)**

The article was introduced with an Abstract including an Objective, Study design, Method, Result and Conclusion. The role of PCPs and Otolaryngologists to evaluate and treat dysphonic patients, has been discussed in details. The result has been elaborated by use of tables. The discussion on the diagnosis and outcomes of the patients with early referral or self referral to otolaryngologist as compared to PCP is meaningful. The online article links included Pubmed, MedGen and related citations. The full text version is free to users including PDF format printout. Previously one article on same topic, had also been published in the journal of Otolaryngology Head Neck Surgery : Diagnosis change in voice-disordered patients evaluated by primary care and/or otolaryngology: a longitudinal study.

Cohen SM, Dinan MA, Roy N, Kim J, Courey M. Otolaryngol Head Neck Surg. 2014 Jan; 150(1):95-102.[4]

## **Article Critique**

### **Authority**

Established in 1896, for more than 100 years, otolaryngologists, clinicians and researchers around the world have read The Laryngoscope to keep pace with and learn how to take advantage of the most important advances in the diagnosis and treatment of head and neck disorders. This journal is the first choice among otolaryngologists to publish their most important findings and share their own successful techniques with their colleagues.

The editor in chief include Prof Michael G. Stewart( MD, MPH). The assistant editor include Prof Robert C. Kern, MD and others.

The author SM Cohen has another publication in Journal of The Laryngoscope named “ Frequency and factors associated with use of video laryngostroboscopy in voice disorder assessment.” recently published on March 24, 2014.[5]

### **Accuracy**

The article reveals that it is a retrospective descriptive study. A retrospective cohort study also called a historic cohort study, a study in which a search is made for a relationship between one (usually current) phenomenon or condition and another that occurred in the past, wherein the results are used to build a theory or hypothesis of a researcher or scientists and Descriptive research, is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. In retrospective cohort study, the investigator collects data from past records and does not follow patients up as is the

case with a prospective study. All the events - exposure, latent period, and subsequent outcome (ex. development of disease) have already occurred in the past and examine possible risk and protection variables in relation to a result that is already established at the start of the study. As compared to prospective studies, retrospective studies suffer from drawbacks: certain important statistics cannot be measured, and large biases may be introduced both in the selection of controls and in the recall of past exposure to risk factors. The advantage of the retrospective study is its small scale, usually short time for completion, and its applicability to rare diseases, which would require study of very large cohorts in prospective studies.

### **Currency**

This study was approved by the Duke University Medical Center Institutional Review Board. A large, national administrative U.S. claims database, the MarketScan® Commercial Claims and Encounters dataset and Medicare Supplemental and Coordination of Benefits dataset, was retrospectively analyzed for January 1, 2004 to December 31, 2008. It was printed online on July 12, 2013. Published. The research it describes is current and article cites references in body of text ranging from 1984- 2013. The article has also been cited in the **Laryngoscope. January 2014; 124(1): 214-20.**

### **Relevance**

This was a scientific journal on a scientific database. It was written to inform otolaryngologists and clinical researchers in visual science rather than to entertain, advertise or promote a particular brand. The article is of particular interest to any PCPS but particularly to an otolaryngologist who seeing patients with dysphonia on daily basis. This is an easy article to read and will be relevant to post graduate students of otolaryngology. This article will also be of special interest to the health workers in otolaryngology who deals many cases of voice disorders, and referring patients to otolaryngologist because early referral is beneficial for patient.

### **Objectivity**

This article provides information of the PCPs and otolaryngologists, the two most common specialties who evaluate and treat dysphonic patients. Understanding the frequency with which PCPs refer these patients to otolaryngologists and the factors that affect the referral decision is essential. The author's further dwell upon that late or non-referral could lead to delayed diagnosis, inappropriate initial management, and progression of the laryngeal/voice disorder. The article also shows that despite the high prevalence of dysphonic patients presenting to primary care patients, only few referred to otolaryngologist for further management. The information was well supported and with adequate sample size and with all evidence acknowledged and referenced. There is no evidence of bias, a fact that is reinforced by the recognition and inclusion of the article in one of the most prestigious peer reviewed journals of the subject.

### **Stability**

The article with its source an internationally acclaimed scientific journal on an academic data base is stable as a resource. The article is also being cited in further research papers. The results from the study undertaken are also fairly impressive and the trial was endorsed by an university of international repute.

Analysis of Graph/ Image/Table:

- Table I Shows International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes groupings.

- Table II Shows characteristics of patient with laryngeal disorders treated by primary care physician (PCP) only, PCP referred to an otolaryngologist, or self-referred to an otolaryngologist.
- Table III Shows time from first primary care physician (PCP) outpatient encounter to first otolaryngology outpatient encounter among patients referred by PCP and self-referred to an otolaryngologist.
- Table IV Shows adjusted Cox regression for otolaryngology referral. N=145,985
- Table V Shows generalized linear regression for patients who had an otolaryngology referral. N=9833

Overall, all the tables are very precise and clearly explain the two stage procedure and their outcomes.

### **Recent Advances Related to Topic**

A recent study “Diagnosis change in voice-disordered patients evaluated by primary care and/or otolaryngology: a longitudinal study” also done by Cohen SM in Duke Voice Care Center, Division of Otolaryngology-Head & Neck Surgery, Duke University Medical Center, Durham, North Carolina, USA and published in the journal of Otolaryngology Head Neck Surgery in Jan 2014 [4]. This study was also a retrospective study and the main objective was that accurate diagnosis of a voice disorder is an essential first step toward its appropriate treatment because differences were found in laryngeal diagnosis over time in outpatients evaluated by primary care physicians (PCPs) versus otolaryngologists. This study clearly demonstrate that three-fourths of patients with an initial diagnosis of acute laryngitis with PCP ,half of these had a different final laryngeal diagnosis. Future studies are needed to assess the relationship between these.

### **Conclusion**

This review has both, summarized and critically reviewed SM Cohen article “Factors Influencing Referral of Patients with Voice Disorders from Primary Care to Otolaryngology” .The introductory links, structure, strength, accuracy and relevance of the article were analyzed and critiqued. This article provides a review of the evidence that many patients who presented to primary care physicians with dysphonia or laryngeal disorders, out of these only 10% referred to otolaryngologist. As this the most common cause of significant morbidity, and a delay in diagnosis.

There were multiple factors affected otolaryngology referral for patients with laryngeal/voice disorders. Further education of PCPs regarding appropriate otolaryngology referral for laryngeal/voice disorders is needed.

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