

Research Article

**Frequency of Pulmonary manifestations of in patients
with Gastroesophageal Reflux Disease**

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ABSTRACT

Introduction: Pulmonary manifestations of GERD are attracting increasing attention. The physiological link between GERD and pulmonary disease has been extensively studied in chronic cough and asthma. The gastric contents can cause throat irritation, postnasal drip and hoarseness also recurrent cough. **Objectives:** This study is to determine frequency of pulmonary manifestations in patients with gastroesophageal reflux disease. **Settings:** This study was conducted through OPD and Emergency of Services Hospital Lahore. **Study Design:** It was a Cross sectional study. **Subjects:** All patients with heartburn, both males and females of 20-70 years of age. **Results:** Out of 150 patients laryngeal symptoms were 10% have dry cough 8% have hoarseness and dry cough hoarseness both in 10% in patients with heartburn. 34% patients with GERD were found to be asthmatic. Nasal symptoms were infrequent 2%. Out of 150 patients 36% do not have any pulmonary manifestations. **Conclusion:** There is high prevalence of pulmonary manifestations in patients with GERD.

Key words: Gastroesophageal reflux disease, pulmonary manifestation.

INTRODUCTION

Gastroesophageal reflux disease is defined as a condition which occurs when the reflux of stomach causes troublesome symptoms¹. It is a common disorder worldwide². It usually runs a chronic course as individuals ignore it mostly until complications appear.³ History is simplest and quickest method to diagnose GERD. The diagnosis is important to consider, however, because significant improvement in symptoms and in asthma control occur with appropriately

treated GERD⁴. Frequency of pulmonary manifestations is very high in patients with GERD⁵ and is a potential trigger for Asthma and COPD⁶.

The objective of this study was to determine frequency of pulmonary manifestation in patients with gastroesophageal reflux disease. The respiratory manifestations seen in patients with GERD are laryngeal, nasal and pharyngeal symptoms. Most common

manifestations are recurrent cough, hoarseness, chest congestion and lung inflammation leading to asthma, bronchitis shortness of breath and pneumonia. No Data available for nasal symptoms in patients with GERD. These manifestations are may be due to: Direct or vagally mediated irritation of larynx, pharynx and posterior nasal mucosa by gastric contents during reflux⁷.

(1) Micro or macro aspiration of esophageal contents into larynx and tracheobronchial tree.

(2) Exposure to small amount of acid was found to significantly impair the sensory integrity of laryngopharynx⁸. Pulmonary manifestations were assessed by questionnaire validated in preliminary studies. One should be able to predict cough due to GERD in following categories of patients:

1. Non- smokers.
2. With normal chest X-ray.
3. Those with negative broncho-provocative test for asthma.
4. Not taking ACE inhibitors.
5. Those with persistent cough despite effective treatment for postnasal drip⁹

Treatment of GERD is aimed at reducing reflux of acid and preventing complication of GERD.

There is evidence that 2 month treatment with PPI is sufficient to reduce cough in patients with GERD¹⁰.

METHODOLOGY OF THE STUDY

This study included both males and females of 20-70 years old. Patients included were with chronic heart burn and GERD not treated at the time of evaluation. Patients excluded were:

1. COPD/ smokers.
2. Pregnancy.
3. Restrictive pulmonary disease.
4. Pulmonary malignancies or laryngeal stenosis.

Apparatus used was a Questionnaire. Study design was “Cross sectional study”. This study was conducted in medical OPD and Emergency of Services Hospital Lahore.

RESULTS

Out of 150 patients Laryngeal symptoms were 10 % have dry cough 8 % have hoarseness and dry cough hoarseness both in 10 % in patients with heartburn . 34% patients with GERD were found to be asthmatic. Nasal symptoms were infrequent 2%. Out of 150 patients 36% do not have any pulmonary manifestation.

Following table and bar chart shows that 64% patients with GERD have pulmonary manifestations and 36% have no pulmonary manifestations.

Figure 1:

Pulmonary manifestations in GERD	
Symptoms	%age of patients
Present	64%
Absent	36%

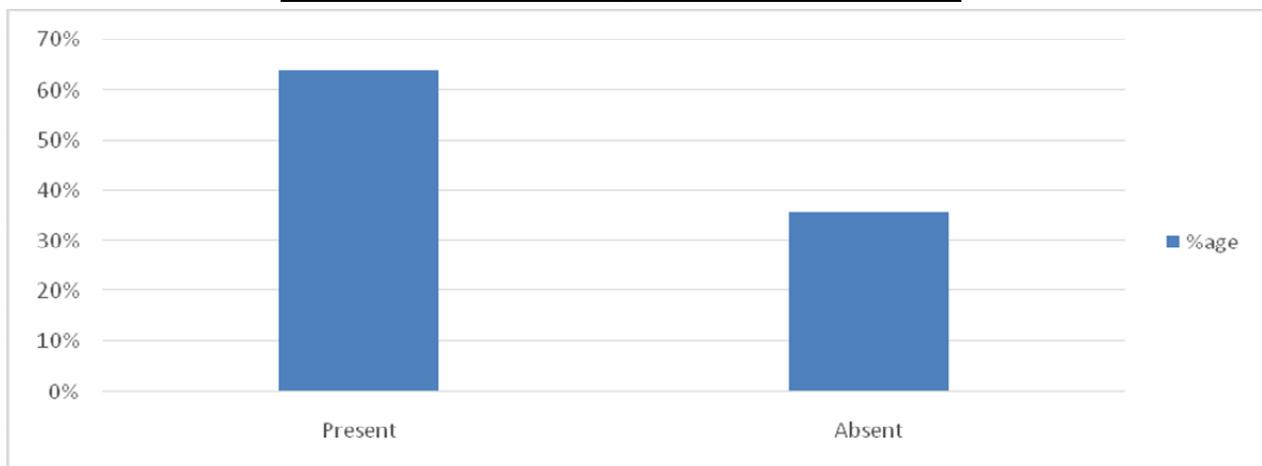


Figure 2 pulmonary manifestations in GERD

Following table shows Age distribution of pulmonary manifestations in patients of GERD
Younger age groups most commonly affected.

Figure 3:

Pulmonary manifestations	Number of patients with GERD (years)					Total no of patients included in study
	20-30	31-40	41-50	51-60	61-70	
Age	20-30	31-40	41-50	51-60	61-70	
Dry cough	07	02	03	02	01	15
Hoarseness	05	02	03	01	01	12
Both dry cough and hoarseness	08	02	03	02	00	15
Asthma	27	07	08	05	04	51
Nasal symptoms	02	01	00	00	00	03
No pulmonary manifestations	-	-	-	-	-	54
						150

DISCUSSION

A causal relationship between asthma and GERD has been known and researched upon for some time now. GERD is considered to be the third leading cause of chronic cough and affects an estimated 20% of the patients.¹²⁻¹³ Different mechanisms of esophageal acid-induced bronchoconstriction include a vagal-reflex, local axonal reflexes, bronchial hyper-reactivity, and microaspiration. Asthmatics are predisposed to GERD development because of a high prevalence of hiatal hernia, autonomic dysfunction and an increased pressure gradient between the abdominal and thoracic cavity. Literature review showed that GERD in patients with chronic sinusitis, laryngitis, and pharyngitis and support the consideration of GERD in patients with upper airway symptoms recalcitrant to treatment¹⁴⁻¹⁷. These investigators postulated a causal relationship between GERD and pulmonary manifestations of GERD¹⁴⁻¹⁶. Support of this hypothesis requires the demonstration of an increased prevalence of pulmonary manifestations in a population of patients with GERD. The subjects of the present study were selected on the basis of their chronic heartburn and not upper airway pathology. Collection of the questionnaire answers was completed without the subjects being aware that the association of pulmonary manifestations with GERD was being studied.

Limitations

1. 24.hr pH monitoring would give better result but it is not widely available.

2. Large sample size and longer study duration can also improve the results

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