Extended Abstract
La Prensa Medica
ISSN: 0032-745X
2019
Vol. 106, Iss. 3

Gastroesophageal reflux disease in Asthma

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Introduction: Asthma is one of the commonest chronic respiratory system diseases that affect a huge number world wild and it's incidence is increasing day by day, and it can affect the daily activity of the patient and cause disability which can affect his performance at job, and there are a lot of factors which can exacerbate asthma.

Gastroesophageal reflux (GERD) symptoms like burning sensation in your chest (heartburn),commonly exacerbated by eating, and usually worse at night, difficulty swallowing, regurgitation of food or sour liquid,chest pain, sensation , occurs when the opening between the stomach and esophagus doesn't work the way it should, as the esophagus connects the stomach by the throat, so the gastric acid can irritate the airways and trigger an asthmatic attack with cough, wheeze, dyspnea and chest tightness.

Condition that increase the risk for GERD are : drugs like, Nonsteroidal Anti-inflammatory Drugs (NSAIDs), Biphosphonate drugs, smooking, spicy meals, coffee, alcohol, eating heavy meals at night.

Both gastroesophageal reflux disease (GERD) and asthma are common diseases and prevalence is increasing day by day affecting millions of people worldwide, a lot of studies showed significant association between gastroesophageal reflux disease and asthma, even it was more than 80% of asthmatic patients were' complaining from gastroesophageal reflux symptoms in some studies.

In a study 89% of all patients with asthma, were complaining from gastroesophageal symptoms regardless of their sex, age, or ethnic background. (American Academy of Allergy, Asthma and Immunology).

Asthmatic patients has double risk of having gastroesophageal reflux disease, especially those patients who are chronic persistent and poorly controlled asthma, or those who are resistant to treatment.

GERD symptoms occur as a result of backward flow of stomach acidic content it to the esophagus, as a result it can produce severe chest pain, burning sensation (called heartburn), as a result of acid micro-inhalation to lung exacerbation of asthma symptoms occur and can affect esophageal mucosa causing Barrett's esophagus, in which there is risk of malignancy

Aim: The aim of this study is find any significant relationship between asthma and gastroesophageal reflux.

SUBJECTS AND METHODS:

A community based cross-sectional study using structured questionnaire, 300 asthmatic patients were asked questions regarding their asthma history (both type I and II asthma) and whether they are complaining from gastroesophageal reflux (GERD) or not, body mass index (BMI) of the patients has been assessed, to find a relation with GERD.

Regarding the diagnosis of gastroesophageal reflux the subjective feeling of the patient is regarded as it is the best way to diagnose the reflux in most uncomplicated patient (as the patients used in the study are complaining just from simlpe GERD symptoms with no additional allarming GIT signs and symptoms).Descriptive data were represented as tables, Chi-square test was used to examine statistical associations between variables and level of significance set as P value < 0.05.

RESULTS:

The study shows a significant relationship between GERD and asthma (especially type I), also GERD was more common in overweight and obese asthmatic patients.

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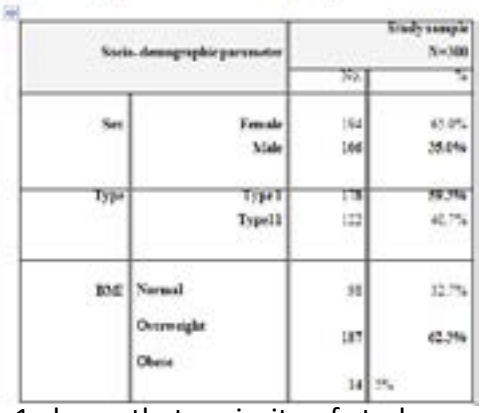
Table(1): Socio demographic characteristics of the study sample

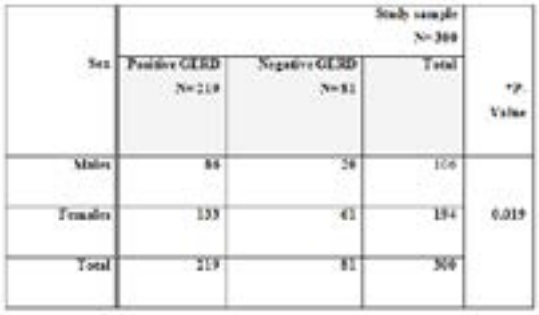


Socio. demographic parameter		Study sample N=300	
		No.	%
Sex	Female	194	65.0%
	Male	106	35.0%
Type	Type I	178	59.3%
	TypeII	122	40.7%
BMI	Normal	38	12.7%
	Overweight	187	62.3%
	Obese	14	5%

Table 1 shows that majority of study sample were from type I Asthmatic (59.3%) , females (65.0%) , and with a body mass index indicating over weight (62.3%)

Table 2 shows the frequency distribution of study sample regarding their relation to GERD symptoms , in which 219(73%) asthmatic patients from the total sample size of 300 patients were complaining from gastroesophageal reflux (P value < 0.05), in which 86 male patient from total 106 , and 133 female patients from total 194 were complaining from gastroesophageal symptoms.

Table 2: Frequency distribution of study sample regarding their relation to GERD symptoms



Sex	Study sample N=300			
	Positive GERD N=219	Negative GERD N=81	Total	*P. Value
Males	86	20	106	
Females	133	61	194	0.019
Total	219	81	300	

χ^2 = was used

Table 2 revealed that 73 % from study sample were having GERD with a P value= 0.019.

Discussion:

Asthma is chronic inflammatory and recative aiway disease that is increasing in prevalence steadily over the latter part of the last century,first in the developed and then in the developing world.

As there a lot of factors that can exacerbate asthma, gastroesophageal reflux is a well-known factor, it is taken in this study to show its association with asthma.

Inhalation of gastric acidity can trigger a bronchial hyper-responsiveness and can lead an asthmatic attack, so studying the relationship between GERD and asthma is important to identify the factors that might exacerbate asthma and try to modify them.

The studt shows that 219(73%) asthmatic patients from the total sample size of 300 patients were complaining from gastroesophageal reflux (P value < 0.05), which is statically stignificant relationship between gastroesophageal reflux an asthma. This finding agrees with study published by Derbak M et al (Combined course of Bronchial asthma and gastroesophageal reflux)at Georgian med news (11) ,

and also agrees with the study published by Akyuz F and Mutluay O(Which diseases are risk factors for gastroesophageal reflux) at Turk J Gastroenterol.

Also this finding agrees with a study Asano & Suzuki in which they found that asthmatic patients have more GERD than the general population.

American Journal of Medicine has published an article (Gastroesophageal Reflux and Asthma), by Stephen J Sontag , talking about the significant relationship between gastroesophageal reflux and asthma, which also agrees with this study finding.

The study also showed a significant association between gastroesophageal reflux and asthma especially in overweight and obese patients this finding is agrees with study published by Gupta S et al (Asthma, GERD and Obesity : Triangle of Information) at Indian J pediat.

This finding also agrees with study published by Paul chang and Frank Friedenberg (Obsity and GERD), at Gastroenterology Clinic, which also found a significant association between gastroesophageal reflux and asthma especially in overweight and obese patients.

CONCLUSION:

There is significant relationship between GERD and asthma (especially type I), also GERD was more common in overweight and obese asthmatic patients.