**The Implications of Gastroesophageal Reflux Disease (GERD) on Emergency Department Visits in Patients with Chronic Obstructive Pulmonary Disease (COPD)**

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Introduction:

Chronic Obstructive Pulmonary Disease (COPD) affects more than 12 million Americans and is the third leading cause of mortality. Previous data have implicated Gastroesophageal Reflux Disease (GERD) as a potential contributor to the pathophysiology of COPD. Stable COPD patients tend to report more GERD symptoms than matched controls. Furthermore, small studies show that patients with COPD who have GERD symptoms tend to have more acute exacerbations.

Methods:

We studied the 2013 National Emergency Department Sample (NEDS) record to evaluate whether a diagnosis of GERD led to an increase in admission rates, length of hospital stay for those admitted, change in healthcare utilization, or cost of ER visit.

Results:

There were 233,958 Emergency Department (ED) visits with the principal diagnosis of COPD. 55.5 % of the patients were female, and mean (SD) age at visit was 65(13). In 34,926 (15%) of these visits, a diagnosis of GERD was also recorded for the patient. These visits led to a total of 125,586 admissions. A significantly higher proportion of patients with GERD were admitted. However, after adjusting for age, sex, and number of diagnoses, there was no significant effect on admission rates (RR 0.98, 95%CI 0.95-1.01, p=0.204). GERD was also associated with a lower cost of medical care with an average savings of $7,071 per patient (95%CI 7597-6545, p<0.001) and shorter length of stay (RR 0.52, 95%CI 0.57-0.47, p<0.001). There was no difference in the use of nebulizers (RR 0.96, 95%CI 0.85-1.08, p=0.497), chest radiographs (RR 1.12, 95%CI 0.99-1.27, p=0.069), or chest Computed Tomography (CT) scans (RR 0.99, 95%CI 0.66-1.51, p=0.982).

Conclusions:

Similar to previous study, we found that a diagnosis of GERD is associated with risk of ED visits. However, after adjusting for age, sex, and number of diagnoses, we found no such association.