**Gastroesopahgeal Reflux Disease (GERD) and Interstitial Lung Disease (ILD) in the National Emergency Database Sample (NEDS)**

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Introduction:

Interstitial Lung Disease (ILD) is a heterogeneous group of disorders in which there is progressive inflammation and degeneration of the interstitium surrounding the alveoli. There is a growing body of evidence that shows that acidic and non-acidic (bile acids, pepsin, and pancreatic enzymes) refluxate may cause activation of fibroblasts in the interstitium leading to the pathology seen in end-stage ILD. Furthermore, GERD is seen even more often in ILD patients compared to obstructive processes of the lungs including Chronic Obstructive Pulmonary Disease (COPD) and asthma.

Methods:

The 2013 National Emergency Database Sample (NEDS) data were reviewed. Patients with a principal diagnosis of ILD (ICD 9 Code 516.0-516.9) were abstracted; those who carried a concurrent diagnosis of GERD (ICD 9 code 530.81) were compared to patients who do not carry this diagnosis. A separate analysis of patients with Idiopathic Pulmonary Fibrosis (IPF) was performed using ICD9 Code 516.3. Outcomes analyzed include mortality, risk of admission, and cost of medical care. Data are presented as mean ± standard deviation, or frequency (percent). All analyses are multivariate, using logistic regression for binary and linear regression for continuous outcomes.

Results:

There were 2,620 ED visits with principal diagnosis of ILD in United States, of these 1313 were from IPF. 52.2 % of the total patients were female, and mean (SD) age at visit was 59(24). In 449 (17.1%) of these visits, a diagnosis of GERD was also recorded for the patient. After adjusting for age, sex, and number of diagnoses, a diagnosis of GERD did not affect the risk of death (RR 0.69, 95%CI 0.45-1.05, p=0.081) or the risk of admission (RR 0.79, 95%CI 0.49-1.29, p=0.345). GERD was associated with a lower cost of medical care, leading to an average 18,845 dollars less spent per patient (95%CI 30483-7206, p=0.002). A diagnosis of GERD did not predict the risk of admissions (RR 1.17, 95%CI 0.58-2.36, p=0.662), health care utilization ED (RR 1.26, 95%CI 0.07-21.57, p=0.872), or cost of medical care (RR -12601, 95%CI -26373-1171, p=0.073) in patients specifically with IPF.

Conclusions:

While GERD has been implicated as a potential etiologic factor for ILD, and more specifically IPF, our data do not show an increase in admission rates, mortality, or cost of health care utilization in ILD patients who have GERD compared to those who do not.