Pulmonary lobectomy patients with PDS are associated with not only higher rates but also increased risks of Postoperative Complications (Total and Pulmonary), Increased LOS, and greater 30/90-day Readmission Rates.  
- 41,691 Total Patients Sampled (41.86% comorbid PDS)  
- 18.3% Increased risk of Pulmonary Complications  
- 4.4% Increased risk of Total Complications  
- 11.6% Prolonged LOS  
- 13.9% 30-Day and 13% 90-Day Readmission

The underlying mechanisms behind worse postoperative outcomes among PDS patients maybe linked to patient compliance and competence as patients with mental health disorders are less likely to comply to medical regimens thereby heightening risks of complications.

Since post-lobectomy recovery requires rigorous patient adherence to protocols and differences in outcome, this study may be used to reduce pulmonary complications, PDS patients were notably at greater risk of developing pulmonary complications.

Furthermore, patients with comorbid PDS may experience an exacerbation of the respective mental disorders or may develop postoperative psychiatric disorders (i.e. postoperative delirium) that may predispose them to further complications and suboptimal outcomes.

While further research is required to elucidate the mechanisms behind the pathophysiology of PDS and poor surgical outcomes, this study may be used to address gaps in perioperative care for patients with PDS.

Materials and Methods

Retrospective analysis of Healthcare Cost and Utilization Project Nationwide Readmissions Database (HCUP-NRD) from 2016-2018 was performed. Patients with primary lung cancer were selected using ICD-10 CM,PCS codes and were further categorized by presence of comorbid PDS using codes consistent with the DSM-V, 5th Edition.

- Inclusion Criteria  
  - Age ≥ 18
  - Chemotherapy Naïve
  - Metastatic Secondary Malignancy

- Exclusion Criteria  
  - Age < 18
  - Concurrent Malignant Disease
  - Metastatic Secondary Malignancy

- Postoperative complication categories: Pulmonary, Cardiovascular, Gastrointestinal, Infectious, Wound-Related, Genitourinary, Psychiatric, Systemic Complications.

- Multivariable regression adjusted for age, sex, insurance, hospital-g Facing Index.

- Groups propensity-matched to account for differences in baseline characteristics, comorbidities, and demographics.

Results

Traditionally, risk stratification for surgical resection of early-stage non-small cell lung cancer (NSCLC) and treatment optimization have mainly focused on the patient’s physical health with limited emphasis on mental health. This lack of focus on mental health poses significant risks as comorbid psychiatric disorders (PDS) may increase the risk for adverse outcomes when receiving medical treatment.1 There is a paucy of studies investigating PDS and their influence on outcomes in patients undergoing thoracic surgery and even fewer in those with primary lung cancers undergoing lobectomy. Additionally, clinical studies including lobectomy patients largely utilize codes from the ICD-9 CM/PCS. With the transition to the ICD-10 coding system in 2015, there are currently no large-scale studies utilizing data from more recent surgical cohorts. As such, there is a need for investigation.

Objective

To examine the impact of comorbid PDS on postoperative outcomes in patients undergoing pulmonary lobectomy with a primary diagnosis of lung cancer.

Outcomes of interest:
- (1) Pulmonary Complications, (2) Total Complications,
- (3) Mean Length of Stay (LOS), (4) 30 and 90-Day Readmission Rates, and (5) Index Mortality.

Hypothesis:
- Patients with comorbid PDS are associated with worse postoperative outcomes and are at greater risk for postoperative complications, increased mean LOS, higher readmission rates, and greater mortality rates compared to patients without comorbid PDS.

Discussion

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