POSC177

Healthcare utilisation and inpatient mortality in patients hospitalised with pneumonia with and without COPD: **A RETROSPECTIVE COHORT STUDY**

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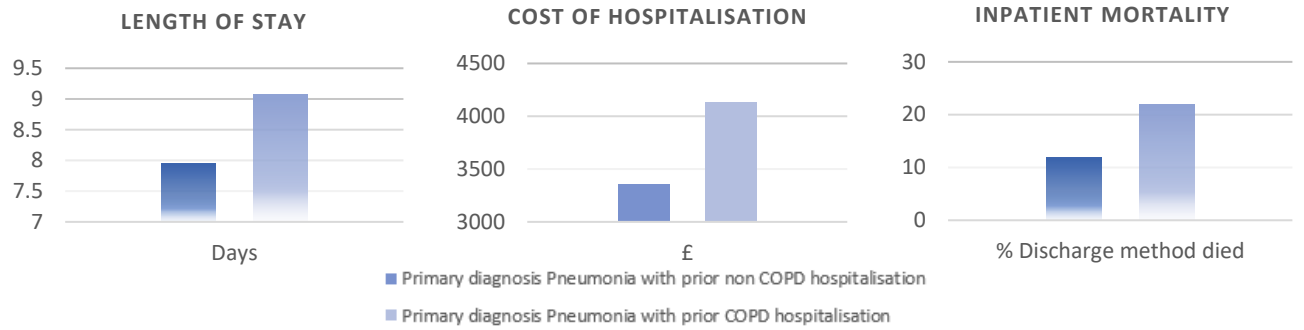
INTRODUCTION

- Respiratory disease affects 20% of people and is the third leading cause of death in England. Lung cancer, pneumonia and chronic obstructive pulmonary disease (COPD) are the biggest causes of death[1].
- Whilst COPD is a common comorbid condition of Pneumonia it is not routinely recognized as a risk factor for increased mortality[2 3].
- Inhaled corticosteroids (ICS), long-acting bronchodilator (LABA) and long-acting muscarinic (LAMA) and combinations thereof are used to improve lung function, health status and reduce exacerbations in patients with COPD[4].
- However, large observational trials have shown increased risk of pneumonia in LABA/ICS compared with LAMA/LABA despite similar efficacy[5 6].
- This study aims to describe the healthcare utilisation and inpatient mortality of patients hospitalised with Pneumonia with or without COPD recorded in a prior hospitalisation.

METHOD

- We conducted a retrospective cohort study using the Hospital Episode Statistics (HES) database.
- All adults admitted to an English hospital with a primary diagnosis of Pneumonia (ICD-10 codes J12 Viral pneumonia, not elsewhere classified, J13 Pneumonia due to Streptococcus pneumoniae, J14 Pneumonia due to Haemophilus influenzae, J15 Bacterial pneumonia, not elsewhere classified, J16 Pneumonia due to other infectious organisms, not elsewhere classified, J17 Pneumonia in diseases classified elsewhere, J18 Pneumonia, organism unspecified.) between April 2019 and March 2020 with a prior hospitalisation in the preceding 36 months were included.
- Patients with a previous hospitalisation of COPD (ICD-10 code J44 Other chronic obstructive pulmonary disease) in any position were compared with patients who had a hospitalisation without COPD in any position in the same time period.
- The length of stay, hospitalisation cost and inpatient mortality for the pneumonia hospitalisation was reported.

RESULTS



There were 191,275 patients with a pneumonia hospitalisation in the observational period, 34,915 with prior COPD hospitalisation and 156,360 with prior non COPD hospitalisation. The mean length of stay was 7.9 Vs 9.1 days, hospitalisation costs were £3,356 Vs £4,134 and inpatient mortality was 11.8% Vs 22% for hospitalisations with prior COPD and non COPD hospitalisation respectively.

CONCLUSION

- **Patients hospitalised with Pneumonia with a previous hospitalisation with COPD are associated with a 14% increase in length of stay, 23% increase in cost and 86% increase in inpatient mortality compared to patients with a previous hospitalisation without COPD. However, further analytical research is required in matched populations to fully describe the relationship.**
- **This research has implications for mitigating the risk of Pneumonia in patients with COPD given the disproportionate healthcare utilisation and mortality in this population.**
- **Adherence to GOLD guidance and appropriate utilisation of LAMA/LABA, initiation and/or withdrawal of ICS considering pneumonia risk when clinically justified may help reduce risk of pneumonia in patients with COPD[4 5].**

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