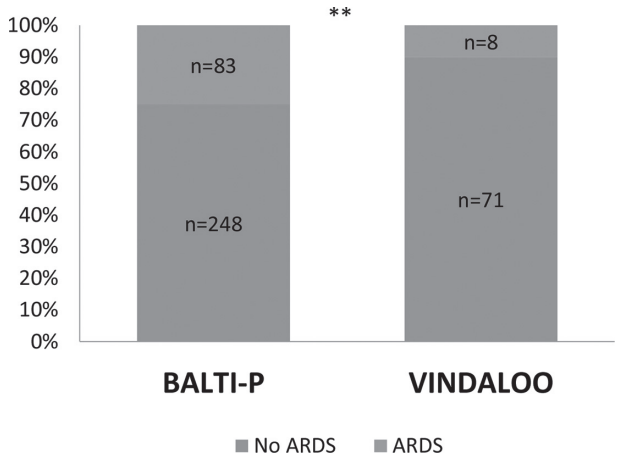

Abstract S15 Figure 1 ARDS incidence was higher in the BALTI-Prevention compared to the VINDALOO trial (p = 0.004)

Results There was a substantially higher ARDS incidence in BALTI-P compared to VINDALOO (RR 1.17 (1.08–1.28)) (Figure 1). There were more never (21 versus 7) and fewer current (12 versus 25) smokers in the VINDALOO group (p = 0.003). Perioperative risk scores did not differ between groups (P-POSSUM mortality p = 0.98, P-POSSUM morbidity p = 0.87, O-POSSUM p = 0.58), nor did use of neoadjuvant chemotherapy (p = 1.0). The incidence of serious complications (Clavien-Dindo score of four or more), was not different between the two groups (RR 1.15 (0.94–1.40)). Univariate analysis of the combined groups showed risk factors for ARDS not using regional anaesthesia (OR 3.2 (1.0–9.8) p = 0.038) and current smoking (OR 3.0 (1.1–8.3) p = 0.038).

Conclusion Smoking is an environmental risk factor for ARDS and changing patterns in smoking behaviour appear important in these perioperative cohorts. Other studies have demonstrated that aggregates of small but important changes in care can cumulatively make a significant difference to risk of nosocomial ARDS and our data suggests that this may have resulted in a reduction in perioperative ARDS in this group.

Our study has demonstrated that ARDS incidence post oesophagectomy has fallen. In future, trials utilising oesophagectomy as a model of ARDS should consider selection of a defined higher-risk sub-set of patients.

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S16 SIMVASTATIN IMPROVES NEUTROPHIL MIGRATION IN ELDERLY PATIENTS WITH SEPTIC PNEUMONIA AND REDUCES 6-MONTH MORTALITY AND RE-ADMISSIONS: RESULTS OF THE SNOOPI TRIAL

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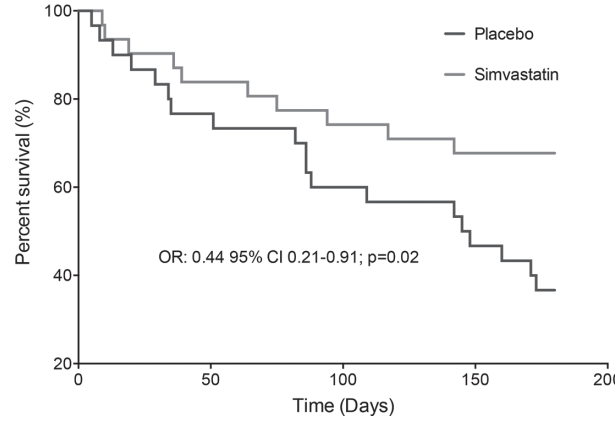
Introduction and objectives Community acquired pneumonia is a leading infectious cause of death in the elderly and the commonest source of sepsis. Neutrophil functions decline with age, and deteriorate further in sepsis.[1] Restoring neutrophil function may improve sepsis outcomes. Recent in-vitro and in-vivo studies suggest simvastatin improves aspects of neutrophil function.[2] Adjuvant statin therapy in severely critically ill patients has failed to improve outcomes and may be associated with increased morbidity,[4,5] however our ASEPSIS study suggested that early intervention with statins may reduce the progression of sepsis in a ward-based cohort of milder sepsis patients.[6] In light of this, we investigated whether oral treatment with simvastatin improved neutrophil function and clinical outcomes in elderly patients with septic pneumonia.

Methods 'SNOOPI' was a phase-4, randomised controlled trial comparing 7-days of 80mg simvastatin with placebo in patients aged 55 years or over admitted to hospital with septic pneumonia.[3] The primary outcome was changes in neutrophil extracellular trap (NETs) formation by day3/4 compared with baseline. Secondary outcomes included neutrophil migration, safety and tolerability, length of stay, readmissions and mortality.

Results 61 patients were recruited acute admissions unit at the Queen Elizabeth Hospital Birmingham between 2013 and 2015, with 31 patients randomised to simvastatin and 30 to placebo. Groups were well matched for baseline characteristics, pneumonia and sepsis severity, co-morbidities and biochemical and haematological parameters.

There was no significant difference in the primary end-point of change in NETS at day3/4. Directional neutrophil migration (chemotaxis) was significantly improved in patients who received simvastatin at day 3/4 (0.35 ± 0.16 μm/min vs. −0.15 ± 0.17 μm/min; p = 0.033). Simvastatin was well tolerated with no SUSARS, even with the co-prescription of macrolides. At 6-months, patients in the simvastatin group were less likely to have been admitted to hospital or died compared to those in the placebo group (OR: 0.44; 95% CI: 0.21–0.91; p = 0.02) (Figure 1).

Conclusions The current study suggests that early intervention with statins in septic pneumonia patients may improve patient outcomes. We propose that one of the mechanistic drivers may be the restoration of sepsis-associated dysregulated neutrophil function. Further larger studies are warranted to confirm whether early intervention with statins in patients with sepsis confer an overall survival benefit.



Abstract S16 Figure 1 Kaplan-Meier Curve showing the time (in-days)to either death or re-admission to hospital in patients' allocated to simvastatin or placebo

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Understanding the Clinical Course Of Idiopathic Pulmonary Fibrosis

S17 THE BURDEN OF IDIOPATHIC PULMONARY FIBROSIS IN THE UNITED KINGDOM: A RETROSPECTIVE, MATCHED COHORT STUDY

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Background Idiopathic pulmonary fibrosis (IPF) is a specific form of chronic, progressive fibrosing interstitial pneumonia which primarily affects older adults, for which very few treatments have existed. While attention has been paid to quantifying the rising incidence and prevalence of the disease, little has been done to quantify the impact of this disease on NHS resources and how this impact varies by setting.
Objective This study aims to identify health care utilisation patterns in the United Kingdom (UK) following IPF diagnosis.
Methods The Clinical Practice Research Datalink (CPRD) GOLD dataset for general practitioner office visits and the linked Hospital Episode Statistics (HES) datasets were analysed, covering the time period from January 1, 2000 to June 30, 2015. A matched cohort analysis was conducted, and frequency counts and regression analyses were used to quantify raw healthcare resource utilisation and understand the proportion of the utilisation that is attributable to IPF.
Results The results of this study indicate that IPF patients have significantly higher healthcare utilisation patterns than non-IPF patients. The regression results indicate that IPF leads to roughly 2.2 times as many GP visits, 8.7 times as many inpatient hospitalizations, and 2.4 times as many outpatient hospital visits per year (all p-values <0.0001), as well as increased referrals, prescriptions, and, in the post-diagnosis period, inpatient stay duration. Additionally, healthcare utilisation amongst these patients is dramatically higher in the year prior to IPF diagnosis, a pattern not witnessed in the matched cohort.
Conclusions IPF imposes a significant burden on the NHS despite its rare prevalence. IPF patients experience an across the board increase in healthcare utilisation, but the burden is particularly acute in the inpatient hospital setting. Additionally, the large increase in resource utilisation in the year prior to IPF diagnosis is evidence of the potential benefits to refining the diagnostic procedures.

S18 A WORKING DEFINITION AND NATURAL HISTORY OF 'MINIMAL' ILD

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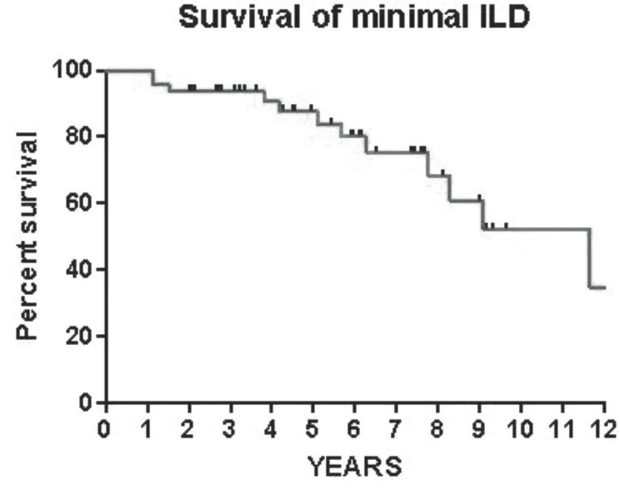
Background High resolution computed tomography (HRCT) scanning is able to detect abnormalities consistent with interstitial lung disease (ILD). However, if only a small proportion of lung is affected, radiologists variously report this as 'minimal', 'minor' or 'early' ILD. There is no definition of what constitutes 'minimal' ILD and the natural history of these patients is not known.
Aims To define 'minimal' ILD, test observer agreement with this definition and describe the characteristics and survival of these patients.
Hypothesis Minimal ILD can be defined by subjective quantification and has a benign course.
Methods Between 01.01.2002 and 31.12.2014 the Edinburgh Lung Fibrosis Database was prospectively populated with data for 1450 consecutively presenting patients with ILD. Of these, 56 were identified as presenting with 'minimal' disease according to HRCT. Three radiologists participated in a modified Delphi exercise and agreed on a definition of 'minimal' ILD. A sample (n = 38) of HRCT scans was provided to test inter- and intra-observer agreement according to this definition using Fleiss' Kappa statistics. Survival was assessed using Kaplan-Meier curves.
Results The Delphi exercise resulted in 'minimal' disease being defined as ILD involving <5% of the total lung volume and/or <10% of the lung peripheries. Using this definition, inter-observer and intra-observer agreement was moderate (kappa 0.42 and 0.58 respectively). Of the 56 subjects originally deemed as 'minimal' ILD, 48 were unanimously described as minimal disease by post-definition criteria. One subject was biopsied (consensus after biopsy, unclassifiable). Forty-seven subjects were not biopsied and none met ATS/ERS consensus criteria for diagnosing IPF. Most subjects had 'unclassifiable' disease, but the working diagnoses were; IPF or other fibrotic idiopathic interstitial pneumonia (IIP) (n = 34), IIP without fibrosis (n = 7) and connective-tissue disease associated ILD (n = 7). The median age was 69yrs, 56% were male and 23% had never smoked. The mean (SD) %pred lung function was; FEV_1 91.8% (19), VC 101% (18)



Abstract S18 Figure 1 Survival of minimal ILD