THE INCIDENCE OF LUNG CANCER IN PEOPLE WITH EXTRA-CORPOREAL MEMBRANE OXYGENATION AND CONNECTIVE TISSUE DISEASE ASSOCIATED PULMONARY FIBROSIS IN THE UK: A POPULATION BASED STUDY

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Introduction Studies have suggested that lung cancer is more common in people with idiopathic pulmonary fibrosis (IPF). However, there is limited information on the risk of lung cancer in individuals with connective tissue disease associated pulmonary fibrosis (CTD-PF). The aim of this study was to compare the incidence of lung cancer in people with IPF and CTD-PF with that of the general population.

Methods Using electronic primary care records from The Health Improvement Network (THIN), we identified incident cases of IPF and CTD-PF between 2000 and 2011. For every case of IPF or CTD-PF, up to 4 general population controls matched on age, sex and general practice were randomly selected. We conducted a matched cohort analysis to estimate rate ratios for lung cancer in cases of IPF and CTD-PF compared with matched controls, adjusting for smoking habit.

Results Our study population consisted of 3266 incident cases of IPF, 494 cases of CTD-PF and 14,463 matched general population controls. The majority (64.1%) of people with IPF were male, while most (55.3%) of those with CTD-PF were female. Individuals with CTD-PF were also younger at time of diagnosis compared to people with IPF (mean age at diagnosis 69.0 vs. 74.2 years; p < 0.001).

The median follow up time for our study population was 3.1 years (Interquartile range [IQR] 1.3 to 5.6). During this time 80 (2.5%) individuals with IPF, 9 (1.8%) with CTD-PF and 149 (1.0%) controls were diagnosed with lung cancer. After adjusting for smoking and the matching factors, the incidence of lung cancer was higher in people with IPF (Rate Ratio [RR] 3.61, 95% Confidence Interval [CI] 2.44 to 5.34) and CTD-PF (RR 2.35, 95% CI 0.78 to 7.09; p value for trend=0.013) compared to the controls (see Figure 1).

Conclusion Individuals with IPF and CTD-PF are at an increased risk of lung cancer, which cannot be fully explained by smoking habit. With the increasing use of new therapies that may prolong the median survival in individuals with lung fibrosis, our findings raise the possibility these patients may represent a suitable population for lung cancer screening.

Abstract P278 Table 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age (years)</th>
<th>Diagnosis</th>
<th>Lung Injury Score</th>
<th>Duration MV before referral (days)</th>
<th>Respiratory support (duration in days)</th>
<th>ECMO complications</th>
<th>Treatment</th>
<th>Predicted ICU mortality (APACHE II)</th>
<th>ICU survival (LOS in days)</th>
<th>6 month survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>73</td>
<td>GPA</td>
<td>1</td>
<td>VV-ECMO (8)</td>
<td>Nil</td>
<td>PEx, MEP, HD, CYC</td>
<td>53.3%</td>
<td>Yes (17)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>GPA</td>
<td>3</td>
<td>VV-ECMO (8)</td>
<td>Nil</td>
<td>PEx, MEP, CYC</td>
<td>29.2%</td>
<td>Yes (14)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>MPA</td>
<td>TBC</td>
<td>VV-ECMO (6)</td>
<td>Nil</td>
<td>PEx, MEP, Rtx</td>
<td>TBC</td>
<td>Yes (15)</td>
<td>TBC</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>GPA</td>
<td>3.25</td>
<td>VV-ECMO (5)</td>
<td>Nil</td>
<td>PEx, MEP, HD, CYC</td>
<td>35.5%</td>
<td>Yes (21)</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

MV, mechanical ventilation; LOS, length of stay; GPA, Granulomatosis and Polyangiitis (Wegener’s Granulomatosis); MPA, Microscopic Polyangiitis; PEx, Plasma exchange; MEP, methylprednisolone; HD, Continuous veno-venous haemodialysis; CYC, Cyclophosphamide; Rtx, Rituximab; TBC, to be confirmed.
ELSO The ELSO database contains 78 patients (adult, 59; paediatric, 19) with pulmonary vasculitides who received ECMO. 43 had a diagnosis of Granulomatosis and Polyangiitis (GPA), whereas the remaining diagnoses included hypersensitivity angiitis, Goodpasture’s syndrome and thrombotic microangiopathy. The median age was 23 yrs (IQR 16–47). The median duration of ECMO was 190hrs (IQR 146–282) and ICU survival was 82%. Twelve patients (15%) were reported to have thrombotic ECMO circuit complications.

**Conclusion** In this case series, ECMO offers an excellent survival rate in SRF due to ANCA-associated DAH. ELSO registry data supports this, suggesting that ECMO should be considered as supportive therapy in DAH with SRF not responsive to conventional therapy.

**P279 REDUCTION IN DISEASE PROGRESSION WITH NINTEDANIB IN THE INPULSIS™ TRIALS**

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Background Nintedanib, an intracellular inhibitor of tyrosine kinases, is in development for the treatment of idiopathic pulmonary fibrosis (IPF). The INPULSIS™ trials were two replicate 52-week, randomised, double-blind, placebo-controlled Phase III trials that investigated the efficacy and safety of nintedanib 150 mg twice daily in 1066 patients with IPF. Declines in forced vital capacity (FVC%) predicted of >5% and >10% in patients with IPF have been proposed as indicators of disease progression and have been associated with reduced survival.

**Aim** To determine the effect of nintedanib on changes in FVC% predicted in the INPULSIS™ trials.

**Methods** The proportions of patients with absolute and relative declines in FVC% predicted of >5% and >10% at week 52 in each INPULSIS™ trial were determined in a post-hoc analysis.

**Results** In each trial, a significantly greater proportion of patients in the placebo group had an absolute decline in FVC% predicted of >5% compared with the nintedanib group. In INPULSIS™-1, a significantly greater proportion of patients in the placebo group had an absolute decline in FVC% predicted of >10% compared with the nintedanib group; the difference between groups in INPULSIS™-2 was numerically in favour of nintedanib but did not reach statistical significance. In each trial, significantly greater proportions of patients in the placebo group had relative declines in FVC% predicted of >5% and >10% compared with those in the nintedanib group.

**Conclusion** In the INPULSIS™ trials, nintedanib reduced the proportion of patients with IPF who experienced disease progression as measured by categorical FVC decline.

**P280 EXTENDED CLINICAL EXPERIENCE WITH PIRFENIDONE DURING A NAMED PATIENT PROGRAMME FOR IDIOPATHIC PULMONARY FIBROSIS (IPF): INTERIM RESULTS**

P281 SMOKING PREVALENCE AND STOP SMOKING INTERVENTIONS FOR PATIENTS ADMITTED TO AN EMERGENCY DEPARTMENT (ED) IN A BUSY, INNER CITY HOSPITAL

**Introduction and objectives** From September 2011 to May 2013, pirfenidone was available in the UK in a named patient programme (NPP). We present results from an extension to a previous real-world study (Parfrey et al. Abstract S98, BTS Winter Conference 2012) now including longer follow-up and all patients enrolled in the pirfenidone NPP from 4 centres.

**Methods** Four centre, retrospective, cohort review of patient outcomes in the 24 months following pirfenidone initiation in the NPP. Discontinuation data were separately collected for all patients prescribed pirfenidone at the Brompton between Sept 2011 and May 2014.

**Results** Two hundred and eighteen eligible patients have been identified. Demographic data have been collected for 124 patients (78% male) and outcome data at 12 months from 58 patients. Mean (±S. D.) age at diagnosis was 67.1(± 8.1) years. Mean time from diagnosis to pirfenidone initiation was 27.7 (± 30.6) months. At pirfenidone initiation, mean FVC was 69.3 (±18.9)% predicted (with 27 (22.0)% patients having FVC >80% predicted); DLco was 40.3 (± 13.8)% predicted. Following a 14-day titration period, 53 (93%) patients were receiving the recommended dose of 2403 mg/day pirfenidone. At 6 and 12 months; 47 (81%) and 44 (76%) patients continued to receive pirfenidone.

**Conclusion** 187 patients have been prescribed pirfenidone at the Brompton since Sept 2011. At 10 months following initiation 18.5% of these have discontinued pirfenidone with no further discontinuations beyond this time. For patients in the NPP with available paired baseline and 6 or 12 month FVC, mean decline in FVC% predicted over first 6 months of pirfenidone treatment was 3.2 (± 7.9)%; over first 12 months 1.6 (±12.0)%.

**Smoking detection and cessation**

**P280** Extended clinical experience with pirfenidone during a named patient programme for idiopathic pulmonary fibrosis (IPF): interim results

**P281** Smoking prevalence and stop smoking interventions for patients admitted to an emergency department (ED) in a busy, inner city hospital

**Introduction** ED admissions are ‘teachable moments’ to offer cessation advice to smokers. In this study, smoking prevalence and stop smoking interventions were investigated in patients...