Abstract P149 Figure 1

reviewed for lung function, blood gases in the stable state, episodes of AHRF and mortality up to the end of March 2014. Cross-sectional analyses seeking associations of hypercapnia and T2RF were carried out, together with comparisons of FEV₁ decline, AHRF and mortality between those with and without T2RF.

Results Mean follow up duration was 6.7 years. 164 patients died and 90 had one or more episodes of AHRF; AHRF was more common in T2RF ($p = 0.046$). Cox regression analysis, adjusting for age, demonstrated that death was more likely in those with T2RF compared to T1RF (Figure 1; $p = 0.018$). A rise in CO₂ after administration of oxygen during the test of LTOT eligibility showed a similar association, but it was less strong ($p = 0.041$). Lung function was strongly associated with T2RF and subsequent use of NIV for AHRF; 53% of those with FEV₁ <30% predicted eventually required it. This increased to 81% if FEV₁ was less than 20% predicted. After adjusting for baseline FEV₁ in the regression model, FEV₁ decline did not differ between T2RF and T1RF.

Conclusions LTOT patients with T2RF are at higher risk of AHRF and death, thus should be followed up more closely and more effort made to record advance wishes regarding NIV, if appropriate.

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P150

HOSPITAL RE-ADMISSIONS WITH EXACERBATION OF OBSTRUCTIVE PULMONARY DISEASE IN ILLICIT DRUG SMOKERS

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Introduction Patients with obstructive pulmonary disease (asthma or chronic obstructive pulmonary disease – COPD) who smoke illicit drugs are at an increased risk of hospital admissions.

We compared hospital re-admission rates due to exacerbations of obstructive pulmonary disease amongst current/ex-illicit drug smokers versus current/ex-tobacco smokers.

Hypothesis

'Are those who smoke illicit drugs admitted to hospital with a clinical diagnosis of exacerbation of COPD more likely to be re-admitted with a further exacerbation than current/ex-tobacco smokers?'

Methods Re-admission was defined as any admission, after the first, with an exacerbation of obstructive pulmonary disease during the study period. All admissions with a presumptive diagnosis of 'exacerbation of COPD' between January 2009 and September 2011 were reviewed. This was performed retrospectively using our COPD admission database.

Results There were 950 sequential hospital admissions in 709 patients over a 33 month period. We found 250 ex-tobacco smokers, 370 current tobacco smokers and 89 current or ex-illicit drug smokers. Re-admission rates with exacerbation of obstructive pulmonary disease were higher in illicit drug smokers compared to current/ex-tobacco smokers (1.00 v. 0.22/0.26, $p < 0.001$). Illicit drug smokers were younger (50 v. 72.9/69.9 [mean 71.2] years, $p < 0.001$) and had shorter length of hospital stay (7.44 v. 9.28/10.69 [mean 9.87] days, $p = 0.038$). Illicit drug smokers with FEV₁ < 1 litre (L) had higher readmissions (2.56) than ex/current tobacco smokers (0.6) with FEV₁ < 1L ($p < 0.001$) [Table 1]. Illicit drug smokers with FEV₁ > 1L did not show this trend ($p = 0.236$). Tobacco pack years were higher in tobacco smokers (40.22) compared to illicit drug smokers (22.47), p .

Admissions requiring non-invasive ventilation (NIV) for type 2 respiratory failure were more common in illicit drug smokers (8.4 v. 3%, $p < 0.002$).

Conclusion We have shown that readmission rates in illicit drug smokers are higher than in tobacco smokers. These patients tend to be younger, have a male predominance, have shorter length of hospital stay and are more likely to require NIV; readmissions were more predominant in illicit drug smokers with an FEV₁1.

Abstract P150 Table 1 Re-admission rates in illicit drug and combined (ex/current) tobacco smokers assessed by FEV₁

	Illicit drug smokers (n = 35)			Tobacco smokers (n = 216)			χ^2	p value
	No.	Readmissions	Mean	No	Readmissions	Mean		
Spirometry								
FEV ₁ < 1 L	16	41	2.56	105	63	0.6	19.66	0.0001
FEV ₁ > 1 L	19	19	0.894	111	60	0.504	1.399	0.236

P151

CAN THE DECAF SCORE BE USED TO GUIDE PROGNOSIS AFTER AN ACUTE ADMISSION FOR COPD EXACERBATION?

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Introduction Each year chronic obstructive pulmonary disease (COPD) causes approximately 23,000 deaths in England. Patients are admitted daily with exacerbation of COPD which can often be life-threatening. Steer *et al* have shown the use of DECAF score to predict inpatient mortality in COPD exacerbation. The DECAF score stratifies patients into low, intermediate and high risk dependant on their admission score.