

Exacerbations were defined using our usual symptomatic criteria from daily diary cards (Seemungal et al, AJRCCM 1998).

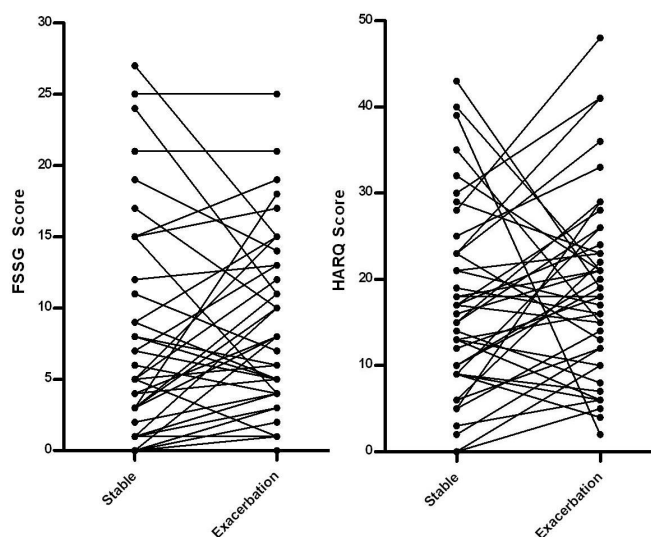
Results 42 COPD patients had a mean \pm SD age of 72.7 \pm 8.7 years, 64% male, 17% current smokers, median(IQR) 46 (19.71) pack years, mean \pm SD stable FEV1 1.22 \pm 0.64L and 50.7 \pm 21.5% predicted, BMI 27.7 \pm 7.4kg/m². 13 (31%) patients had a diagnosis of GORD, of whom 12 (92%) were taking regular acid suppression therapy. There was a median (IQR) interval of 141(80,233) days between the stable and exacerbation visits.

Although median (IQR) FSSG and HARQ scores were higher at exacerbation compared to the stable state, this was not statistically significant due to high variability (6.5 (4.0,13.0) vs 5.0 (1.5,11.5), $p=0.247$ and 15.5 (9.0,23) vs 18.5 (11.5,24.5), $p=0.096$ respectively).

16/42 (38%) patients had a high FSSG score (≥ 8) in the stable state compared with 20/42 (48%) at exacerbation ($p=0.378$). 10/42 (24%) changed from a low stable FSSG to a high score at exacerbation.

27/42 (64%) patients had a high HARQ score (≥ 13) in the stable state compared with 30/42 (71%) at exacerbation ($p=0.483$). 7/42 (17%) changed from a low stable HARQ to a high score at exacerbation.

Conclusions GORD symptom scores are not significantly higher during acute COPD exacerbations. Due to high variability, approximately one fifth of COPD patients had a low GORD symptom score when stable and high scores at exacerbation implicating worsening reflux in some exacerbations. Further work is required to understand the potential mechanisms.



Abstract P214 Figure 1

P215 LEFT VENTRICULAR HYPERTROPHY IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE WITHOUT HYPOXAEMIA: THE ELEPHANT IN THE ROOM?

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WJ Anderson, BJ Lipworth, S Rekhraj, AD Struthers, J George. *University of Dundee, Dundee, United Kingdom*

Background Chronic obstructive pulmonary disease (COPD) is associated with significant cardiovascular mortality. Left ventricular hypertrophy (LVH) is a pivotal cardiovascular risk factor. The prevalence of LVH in COPD is currently unknown.

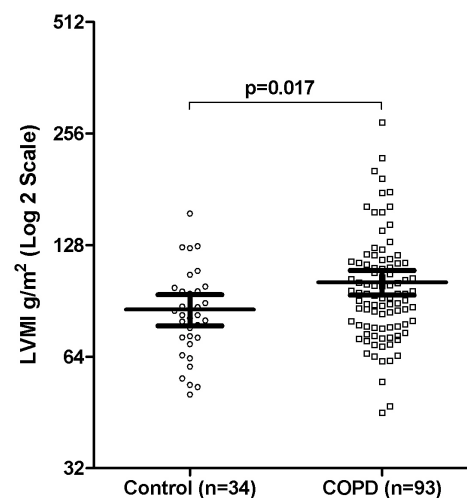
Methods We performed a pilot study of 93 normoxaemic COPD patients and 34 controls. Patients underwent echocardiography to

measure left ventricular (LV) dimensions; electrocardiography; 24-hour blood pressure (BP) recording; and serum B-type natriuretic peptide (BNP) levels, along with spirometry and oxygen saturations.

Results COPD patients' oxygen saturations were normal at 96.5% (95%CI: 96.1–97.0%), with a mean FEV1 of 70.0% predicted (95%CI: 65.2–74.8%). 30.1% of COPD patients met echocardiographic criteria for LVH based on LV mass index, with more LVH in females than males (43.2% vs. 21.4%, $p=0.02$). LV mass index in COPD was 96.2g/m² (95%CI: 90.1–102.7g/m²) vs. controls 82.9g/m² (95%CI: 75.8–90.6g/m²), $p=0.017$ (Figure 1). LV mass index remained high in COPD patients in the absence of hypertension history (94.5g/m² vs. 79.9g/m², $p=0.015$) and with 24-hr systolic BP<135mmHg (96.7g/m² vs. 82.5g/m², $p=0.024$). LV ejection fraction (mean=63.4%) and BNP (mean=28.7pg/ml) were normal in COPD patients. Mean 24hr BP was normal in COPD patients at 125/72mmHg. Electrocardiography was less sensitive for detecting LVH than echocardiography.

Conclusion LVH was present in a significant proportion of normotensive, normoxaemic COPD patients, especially in females, along with normal LV ejection fraction and BNP levels. Clinical trials are therefore indicated to evaluate treatments to regress LVH in patients with COPD.

Figure 1



Left Ventricular Mass Index (LVMI) between groups. Presented as scatterplots of all data points with solid lines representing respective geometric means and 95% CIs. Means comparison with Student's T-test for unpaired samples (two-tailed). Significance set at $p<0.05$.

Abstract P215 Figure 1

P216 IMPACT OF TACHYCARDIA AND NEW ONSET ATRIAL FIBRILLATION IN ACUTE EXACERBATIONS OF COPD

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¹PM Short, ¹JD Chalmers, ²AR Akram, ³A Singanayagam, ¹S Schembri, ¹PA Williamson. ¹Ninewells Hospital, Dundee, United Kingdom; ²Royal Infirmary of Edinburgh, Edinburgh, United Kingdom; ³Imperial College, London, United Kingdom

Introduction and Objectives Cardiac arrhythmias are regularly found in patients with COPD, with higher frequencies reported during exacerbations. We wished to examine the impact of tachycardia and new onset atrial fibrillation (AF) on long term outcome in patients hospitalised with a COPD exacerbation.

Methods A prospective observational cohort study of patients admitted with an acute exacerbation of COPD (AECOPD) was performed. Patients were >40 years of age, with spirometry confirmed COPD, admitted to one of 12 UK centres between 2009–2012.

Hazard ratios for mortality and cardiovascular events at 1 year follow up, based upon the presence of either sinus tachycardia or new onset AF at the initial hospital admission were calculated through Cox proportional hazard regression analysis following correction for influential covariates. Logistic regression was performed to calculate odds ratios (OR) identifying predictor variables of both sinus tachycardia and AF.

Results 1343 patients were included in our study. New onset AF was recorded in 155 patients (12%) of patients. Mean (IQR) age was 72(63–79). Mean (95%CI) FEV1% predicted and MRC dyspnoea score were 46 (34–67) and 4 (3–5) respectively. Hazard Ratios (95%CI) for new onset AF and tachycardia are displayed in table 1.

Factors predicting new onset AF included; history of IHD (OR 4.8; 95%CI 2.95–7.80), increasing age (OR 1.03; 95% CI 1.01–1.07) and worsening MRC dyspnoea score (OR 1.74; 95%CI 1.31–2.29). Prior beta blocker use was not significant (OR 0.68; 95%CI 0.35–1.28).

For sinus tachycardia >120bpm, there were significant relationships for MRC dyspnoea score (OR 1.73; 95%CI 1.43–2.09), respiratory acidosis (OR 1.80; 95%CI 1.20–2.70) and aminophylline treatment (OR 1.53; 95%CI 1.06–2.20). Prior beta blocker use was protective (OR 0.68; 95% CI 0.47–0.97).

Conclusions The presence of tachycardia and new onset AF in patients admitted with AECOPD are associated with a deleterious effect on short and long term mortality. For sinus tachycardia risk was greatest around the time of exacerbation, however new onset AF also heralds more significant 1 year mortality and risk of cardiac events.

Abstract P216 Table 1 Hazard Ratios for Mortality and Cardiovascular Events

Predictor	In hospital mortality	1 year mortality	Cardiovascular events (acute coronary syndrome, cardiac failure, serious arrhythmia)
HR>100 (sinus)	1.43 (0.83-2.46)	1.31 (1.02-1.67)	1.06 (0.81-1.39)
HR>110 (sinus)	1.87 (1.12-3.11)	1.33 (1.04-1.71)	1.14 (0.88-1.49)
HR>120 (sinus)	2.25 (1.33-3.83)	1.37 (1.04-1.81)	1.23 (0.89-1.70)
New onset atrial fibrillation	2.14 (1.26-3.62)	1.60 (1.20-2.12)	1.44 (1.07-1.96)

P217 CURRENT PRACTISE IN CONSIDERING EARLY LIFE FACTORS IN RESPIRATORY DISEASE: A BRITISH THORACIC SOCIETY SURVEY

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¹CE Bolton, ²A Bush, ³JR Hurst, ⁴S Kotecha, ⁵LP McGarvey, ⁶J Stocks, ⁷M Walshaw. ¹University of Nottingham, Nottingham, UK; ²Imperial College London, London, UK; ³University College London, London, UK; ⁴Cardiff University, Cardiff, UK; ⁵The Queen's University of Belfast, Belfast, UK; ⁶UCL Institute of Child Health, London, UK; ⁷Liverpool Heart and Chest Hospital, Liverpool, UK

Background Despite an 8% UK preterm birth rate and the improved survival of very preterm infants into adulthood, we hypothesised that the longer term impact of early life factors on respiratory health and disease is not routinely considered by respiratory specialists. We surveyed BTS members to determine their practise.

Methods Using a survey link, an email was sent twice, 4 weeks apart, to clinically active BTS members, enquiring whether they

asked their patients about birth-weight, being born preterm, pregnancy and postnatal complications, and time in a neonatal unit; whether patients' knew this information, and also whether members believed their patients had airflow limitation due to prematurity or low birth-weight.

Results There was good geographical spread of the 123 replies (61% consultants, 21% doctors in training, 15% nursing profession, 2% GPs and 1% SAS doctors). 93% worked in the secondary care sector (55% in teaching hospitals), and only 13 dealt predominantly with children (12 in hospital, 1 community).

Results are summarised in the Table. Only a small minority (mainly hospital paediatricians) ask "most respiratory patients" about early life factors. In those who do ask, there is a wide variation in patient knowledge, this being greatest for children, in whom parental recall or use of the "red book" assisted. Although 47% thought some of their patients were born preterm or had a low birth-weight, 46% were unaware and 7% thought there were none.

Discussion Given evidence suggesting early life factors do impact on respiratory health, the survey suggests little current consideration is given to these in adult medicine. Limited retrospective recall may preclude accurate assessment. To develop a greater understanding of the potential impact of early life influences on chronic respiratory disease requires a new approach, for example accessing early medical records, recall by a living parent of the patient or via a pre-term registry. In tandem, training needs to address the gaps in history taking.

Abstract P217 Table 1

	"Do you ever ask patients you review about...."		
	Birth-weight?	Born Preterm?	Perinatal or pregnancy complications or time in Neonatal unit?
Most patients with respiratory disease	14%	20%	20%
Occasionally	27%	37%	38%
Selected patients – asthma, COPD, restrictive lung disease or combination	4%	8%	4%
Do not ask	55%	35%	38%

P218 PREVALENCE OF BRONCHIECTASIS IN COPD PATIENTS IN A GENERAL RESPIRATORY CLINIC

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¹SE Brill, ¹S Sikka, ¹CE Miller, ²A Ghali, ²S Hare, ¹R Vancheeswaran. ¹Department of Thoracic Medicine, Barnet Hospital, London, United Kingdom; ²Department of Radiology, Barnet Hospital, London, United Kingdom

Introduction There is increasing recognition that radiological bronchiectasis is present in many patients with COPD. However, estimated prevalence varies from 4% (Agusti, Respir Res; 2010) to 50% (Patel, AJRCCM; 2004), with the prevalence in the UK general secondary care population unknown. We assessed this in patients from the respiratory clinic at our general hospital.

Methods COPD patients underwent chest CT as part of their clinical assessment. Patients were included if COPD was diagnosed based on spirometry and clinical assessment and excluded if there was clinical bronchiectasis. Scoring was by a simplified system based on Smith (Thorax, 1996) and returned a score of 0 (no bronchiectasis), 1 (0–50% of bronchi involved), or 2 (50–100% of bronchi involved) for each lobe, with a total score of 12 including the lingula; emphysema, interstitial lung disease (ILD), or other pathology was noted.