technique training and PAAP. The development of an asthma care pathway that captures the essence of the NRAD quality indicators, together with staff training, is urgently required to ensure that EDs lead the way in reducing the morbidity and mortality associated with acute asthma presentations.

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M9 A HIGH PREVALENCE OF OBSTRUCTIVE SLEEP APNOEA (OSA) IN THE SEVERE/DIFFICULT TO TREAT ASTHMA (SDTA) POPULATION

¹SE Davies, ²N Cachada, ²A Turner, ²S Wharton, ¹A Mansur. ¹Birmingham Regional Severe Asthma Service, Heartlands Hospital, Birmingham, UK; ²Respiratory Department, Heartlands Hospital, Birmingham, UK

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Introduction An association between OSA and asthma has been demonstrated. The exact prevalence in the SDTA population is unknown.

Aim To determine the prevalence and predictors of OSA in the SDTA population

Methods All patients who attended a severe asthma regional centre between January 2013 and August 2016 with confirmed SDTA were asked to participate. All patients without a pre-existing OSA diagnosis had an overnight limited-channel sleep study. Patients underwent bioelectrical impedance measurements and completed the Epworth Sleepiness Score (ESS).

Results 72 patients consented and were included in the analysis. 69.4% (n = 50) had OSA. 33.3% (n = 24) had a pre-existing diagnosis of OSA and 79% (n = 19) of this group were receiving Continuous Positive Airway Pressure (CPAP). 36% (n = 26) had a new diagnosis of OSA. 31% (n = 22) had OSA excluded with a negative sleep study. Mild OSA (Apnoea Hypopnoea Index (AHI) ≥ 5 –14.9) = 31.9% (n = 23), moderate OSA (AHI ≥ 15 –29.9) = 16.7% (n = 12), severe OSA (AHI ≥ 30) = 4.2% (n = 3). AHI was unknown for 16.6% (n = 12) with pre-existing OSA receiving CPAP from a specialist centre.

The mean age was 47.7 years (18–73) and 72.2% (n = 52) were female. Mean Body Mass Index (BMI) was 32 (18.6–65.7). ESS was higher in the OSA group compared to the no-OSA group (11.0 vs 8.7, p = 0.091). The OSA group had significantly

higher BMI (34.7 ± 8.00 vs 28.8 ± 9.62 , p = 0.007) and body fat percentage (38.7 ± 12.37 vs 28.3 ± 14.03 fat%, p = 0.003) compared to the no-OSA group. The OSA group had a significantly higher incidence of hypercholesterolaemia compared to the no-OSA group (32.6% vs 8%, p = 0.0239). There was a higher incidence of diabetes (18.6% vs 8%, p = 0.0932), hypertension (27.9% vs 16%, p = 0.1643) and gastro-oesophageal reflux (60.5% vs 54.2%, p = 0.6189) in the OSA group. Blood eosinophil levels were significantly lower in the OSA group compared with the no-OSA group (0.23 ± 0.18 vs $0.39 \pm 0.29 \times 10^9/L$, p = 0.004).

Conclusion A significant prevalence of OSA was noted in this SDTA population. BMI, percentage body fat and hypercholesterolaemia were the strongest predictors of OSA. Patients with OSA had significantly lower blood eosinophil levels when compared to the no-OSA group. Alternatives to eosinophilic inflammation as a driver for severe/difficult to treat asthma should always be considered.

Symptom Assessment and Investigation of Lung Disease

M10 LIVING WITH RELAPSING POLYCHONDritis; A PATIENT AND CARER ENGAGEMENT EXPLORATION

¹J Haines, ²J Hull, ³J Swaisson, ³T Clark, ¹R Niven. ¹North West Lung Centre, University Hospital of South Manchester, Manchester, UK; ²Department of Respiratory Medicine, Royal Brompton Hospital, London, UK; ³Relapsing Polychondritis Support Group, National, UK

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Introduction Relapsing polychondritis (RP) is a poorly understood rare condition in which recurrent bouts of inflammation affect the cartilage of the ears, nose, larynx and tracheobronchial tree. Prospective research is extremely limited and true prevalence data unknown. There are no identified optimal diagnostic pathways and treatment is not standardised. Seeking patient experience and opinion is invaluable to support and inform clinical and research strategies. We report the first known public involvement data relating to living with RP.

Method The RP patient support group hosted a patient engagement event to provide a reciprocal education environment for healthcare professionals, sufferers and their carers. A one-hour patient and carer focus group, aiming to identify key issues

Abstract M10 Table 1 Priority resource allocation for addressing themed issues of living with RP

RP Suffer (n = 13)			RP Carer (n = 9)		
Group defined theme	Resource coins assigned (n = 52)	% resource (priority rank)	Group defined theme	Resource coins assigned (n = 36)	% resource (priority rank)
Lack of understanding of health care providers	15	29 (1)	Pain	15	42 (1)
Loss of identity	10	19 (2)	Lack of understanding of health care providers	7	19 (= 2)
Breathlessness	8	15 (3)	Restrictions on planning ahead	7	15 (= 2)
Pain	7	13 (4)	Impact on relationships	4	11 (4)
Fatigue	5	10 (5)	Financial worry	2	6 (5)
General side effects	3	6 (6)	Frustration	1	3 (6)
Restrictions on planning ahead	2	4 (= 7)			
Impact on relationships	2	4 (= 7)			

relating to living with RP, was facilitated by members of the Large Airway Collapse with Symptoms (LACS) national network.

The facilitators were experienced in running focus groups and had clinical awareness of RP to support discussion when needed. The semi-structured session explored: symptoms; effect on everyday life (emotional, physical, impact on others); diagnosis (time span, professionals involved, ongoing monitoring); healthcare professional support. The session concluded with a priority exercise where participants received four 'resource' coins to distribute as they wished to themed issues (as defined collectively by the group).

Results Twenty-two participated; 13 RP sufferers and 9 carers. The group fully engaged and there were no conflicts, despite differing opinions. Despite some valued on-line peer support groups general consensus was provision is limited for those living with RP; the majority had never met another RP sufferer/carer until the session.

Group defined themed issues for RP sufferers included: lack of understanding; loss of identity; breathlessness; pain; fatigue; impact on relationships; memory impedence. Carer themed issues were similar: pain; lack of appropriate support; restrictions on planning ahead; impact on social life. The allocation of resource across the groups differed in priority (Table 1).

Conclusion Common issues effect both RP sufferers and their carers but there are variations in the hierarchy of burden. We acknowledge this is a preliminary engagement exercise. However, the key issues identified should form the foundation for further research focus groups to guide appropriate patient-centred care for RP.

M11 THE IMPACT OF RESPIRATORY SPEECH AND LANGUAGE THERAPY ON PATIENTS' COUGH RELATED SYMPTOMS

¹J Haines, ²C Slinger, ²A Vyas, ³S Chua, ¹SJ Fowler. ¹North West Lung Centre, University Hospital of South Manchester, Manchester, UK; ²Lancashire Teaching Hospitals NHS Foundation Trust, Preston, UK; ³University of Manchester Medical School, Manchester, UK

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Introduction Unexplained chronic cough may persist despite systematic evaluation and medical treatment of relevant comorbidities. Currently there are no effective, acceptable anti-tussive agents for the treatment of such patients and significant physical, social and psychological morbidity is described. The role of non-pharmacological treatment approaches and specifically speech and language therapy have been reported to be effective.

In our specialist tertiary airways service, all patients with unexplained chronic cough greater than 8 weeks in duration, remaining unexplained after investigation and supervised therapeutic trials, are referred for respiratory speech and language therapy (rSLT).

Aims To determine the effect of rSLT on the Leicester Cough Questionnaire (LCQ) and establish specifically whether the impact occurs across each of the described domains: physical, psychological and social.

Methods We included retrospective data from all patients with unexplained chronic cough who completed rSLT between January and June 2016, and who had LCQ data available before and after treatment.

Results Sixteen full data sets [69% female; median (range) age 58 (35–73) years] were available for analysis; rSLT median = 4, (range = 3–6) sessions. There was overall improvement in LCQ

from median (range) 13.0 (7.0–18.0) pre to 17.4 (8.0–21.0) post rSLT [minimal important difference (MID) 1.3; Wilcoxon's signed rank $p < 0.001$]. Each domain improved post rSLT: physical from 4.7 (3.0–7.0) pre to 6.0 (2.0–7.0) post (MID 0.2; $p = 0.004$); psychological: from 4.0 (1.0–6.0) to 6.1 (3.0–7.0) (MID 0.8; $p = 0.001$); and social from 4.0 (2.0–7.0) to 5.7 (3.0–7.0) post (MID 0.2, $p = 0.001$). Individual answers to 10 of the 19 LCQ questions showed statistically significant improvements.

Conclusion These preliminary data indicate that rSLT improves cough related symptoms similarly across all domains. Further investigation is needed to inform which aspects of patients' cough-related symptoms do/do not improve with therapy to guide treatment refinement. Specifically, closer investigation of response to individual LCQ questions may lead to improvements in therapeutic strategies.

M12 TRPV1 POLYMORPHISM IN CHRONIC COUGH: NO EVIDENCE FOR AN EFFECT ON OBJECTIVE MEASUREMENTS OF COUGH

¹RD Turner, ²E Bourne, ²CA Mein, ³SS Birring, ²SO Shaheen, ¹GH Bothamley. ¹Homerton University Hospital NHS Foundation Trust, London, UK; ²Queen Mary University of London, London, UK; ³King's College London, London, UK

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Introduction and objectives The afferent receptor TRPV1 is implicated in the cough reflex. Several single nucleotide polymorphisms (SNPs) in *TRPV1* appear to be associated with symptoms of cough in the general population.¹ We investigated whether such SNPs are associated with the objective measures of cough reflex sensitivity and 24-hour cough frequency (CF24) in chronic cough.

Methods Patients were recruited from a specialist cough clinic with cough >2 months' duration as the only or predominant symptom. Each underwent measurement of C5 (minimum concentration of capsaicin required to produce 5 coughs) and wore the Leicester Cough Monitor for 24 h. Saliva samples were taken to extract DNA and genotype six SNPs of *TRPV1*: rs161365, rs17706630, rs2277675, rs222741, rs150854 and rs224498. Mean values of C5 and CF24 were compared across genotypes and univariate linear regression was used to analyse the per minor allele associations with each outcome for each SNP, on the assumption their effects would be additive.¹

Results 57 patients were recruited with underlying diagnoses including unexplained chronic cough ($n = 43$), asthma ($n = 7$) and gastro-oesophageal reflux ($n = 2$). 42 (74%) were female, and median (IQR) age and duration of cough was 60 (54–66) years and 5 (3–12) months, respectively. Median (IQR) C5 was 7.8 (3.9–15.6) $\mu\text{M/L}$ and cough frequency 399 (181–651) coughs/24 h.

Genotype frequencies were as shown (Table). There was no evidence for an association between *TRPV1* polymorphisms and C5 or CF24. This was the case regardless of diagnosis.

Conclusion This small study did not provide support for a large effect of *TRPV1* polymorphism on cough frequency or cough reflex sensitivity in chronic cough. However, we lacked power to detect small/modest effects.

REFERENCE

1 Smit, et al. *Respir Res* 2012;13:26.