Abstract P194 Figure 1

values. Analysis by QCT and SPECT is available on 235 lung lobes. For all lung lobes, mean low attenuation at -910 HU was 53.7% and at -950 HU of 36.9%. Median Score on SPECT was 5.3 points. A weak correlation between uptake score on SPECT and QCT scores; Spearman $r = -0.33$, $p < 0.0001$ for emphysema area at -910 HU and $r = -0.33$, $p < 0.001$ for emphysema area at -950 HU. Significant discordance is present between the two methods (graph.1) which could lead to either treating lobes with low perfusion but preserved lung tissue or not treating lobes with high perfusion but with significant emphysema.

Conclusion Despite the wide usage of perfusion scan to guide identification of lung lobes targeted for LVR, this study shows that this method needs to be interpreted with caution. QCT's should be relied upon to choose lobes needing treatment. Longitudinal analysis is needed to evaluate the outcome of treatment when the treated lobe was selected according to low perfusion.

External influences on asthma

P195 "SYNDROME Z" IN THE ASTHMA POPULATION

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Introduction Current literature demonstrates associations between asthma, obstructive sleep apnoea (OSA) and obesity. Syndrome Z is the occurrence of OSA with the metabolic syndrome, and the relevance of this condition in asthma populations remains unclear.

Methods 192 patients were recruited from a regional severe asthma service and associated respiratory clinics during January 2016-June 2017. 37 had a pre-existing diagnosis of OSA, 116 patients were screened regardless of symptoms, 39 patients with symptoms of OSA were included. Patients underwent an overnight limited channel sleep study and bioelectrical impedance measurements. The groups were split into OSA and no-OSA to compare metabolic profile, associated co-morbidities and body fat composition. Data were analysed using MedCalc version 15.

Results 192 patients with asthma (137 females, 55 males), 173 (90%) had severe asthma, 19 (10%) had non-severe asthma. 37 (19.3%) had pre-existing OSA, 26 of which required Continuous Positive Airway Pressure (CPAP). A total of 97 (51%) had OSA, 58 (30%) had OSA excluded. The OSA group had significantly higher mean Body Mass Index (BMI) (34.8 ± 8.2 versus no-OSA group 28.1 ± 6.0 , $p < 0.001$), body fat% ($38.2\% \pm 11\%$ versus no-OSA group $32.2\% \pm 12\%$, $p = 0.002$), visceral fat rating (12.8 ± 5.1 versus no-OSA group 7.4 ± 4.1 , $p < 0.001$) and mean metabolic age (59.5 ± 12.8 years versus no-OSA 44.4 ± 16.7 years, $p < 0.001$). The OSA group also had significantly higher rates of diabetes (OSA 0.25 ± 0.47 , no-OSA 0.06 ± 0.23 , $p = 0.005$), hypercholesterolaemia (OSA 51/132 (38.6%), no-OSA 9/53 (28.6%), $p = 0.0046$) and hypertension (OSA 50/132 (37.9%), no-OSA 6/53 (10.7%), $p = 0.0004$).

There was no significant difference in GORD($p=0.305$), rhinosinus disease($p=0.388$) or oral corticosteroid requirement ($p=0.6896$). Asthma Control Questionnaire (ACQ) was significantly higher in OSA 3.3 ± 1.3 compared to the no-OSA group 2.8 ± 1.3 , $p=0.022$ (Apnoea Hypoxia Index (AHI) ≥ 10)

Conclusion Asthmatics with co-morbid OSA are more likely to have poor asthma control with significantly higher ACQ scores. Additionally, these patients have significantly higher rates of diabetes, dyslipidaemia and hypertension. Routine screening for OSA and metabolic syndrome ("syndrome z") is recommended in asthmatics.

P196 A NEW QUESTIONNAIRE TO MEASURE QUALITY OF LIFE IN SEVERE ASTHMA (SAQ): PRELIMINARY VALIDATION

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Introduction and Objectives Existing HRQoL scales have poor content validity for severe asthma as they fail to measure the qualitatively different burdens experienced by the severe asthma population compared to those with mild or moderate asthma, in particular, the side effects of oral corticosteroids (OCS). A new severe asthma quality of life questionnaire (SAQ) has been designed using extensive patient input in qualitative studies as per FDA guidelines. The questionnaire has 16 questions rated on a 1–7 Likert scale and a 100 point global quality of life scale (GQoL) similar to the EQ-5Ds 100 point visual analogue scale (VAS) (SAQ.org.uk).

Methods Consecutive consenting patients attending the severe asthma clinic in Plymouth with severe asthma were invited to participate in a cross sectional survey. Patients completed four questionnaires the SAQ, mini Asthma Quality of Life Questionnaire (miniAQLQ), Asthma Control Test (ACT) and the EQ-5D. Prednisolone dose and frequency of severe exacerbations were obtained from clinic records.

Results 102 participants (64 female, mean age=51 years range 18–79 years), of whom 38 were on maintenance OCS consented to take part, mean FEV1% of 69%. Correlations between the four questionnaires were all above 0.65. Correlations with frequency of severe exacerbations were SAQ 0.31, miniAQLQ 0.31, ACT 0.34. The SAQ's GQoL correlated with the EQ-5D's VAS at 0.73. The SAQ was significantly better than the miniAQLQ at predicting the quality of life of patients taking ≥ 10 mg OCS a day ($p<0.05$ vs $p=0.88$). These questionnaires had parallel Results for doses up to 10 mg but above that only SAQ provided differentiation between patients.

Conclusions Preliminary Results indicate that the SAQ may be a more valid measure of quality of life in severe asthma than existing questionnaires. The SAQ maps onto a pre-existing health economic measure, the EQ-5D. Furthermore the SAQ has greater sensitivity to differences in OCS dose compared to the AQLQ. The SAQ will be assessed further in a larger validation study.

Abstract P196 Figure 1

P197 THE IMPROVING ASTHMA CARE TOGETHER (IMPACT) PROJECT

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The Improving Asthma Care Together (ImpACT) project implements a novel model of care which provides an integrated responsive services for asthma patients in Derby.

Aim The hypothesis of this project was that rapid review by a specialist asthma nurse in the community during an asthma exacerbation, would result in an improvement in patient's asthma control and their ability to self-manage their asthma.

Methods Four specialist asthma nurses were recruited to provide seven day cover for the service. Patients who reported increasing asthma symptoms could access the service by self-referral or referral from a healthcare professional. The intervention involved a face-to-face review or a telephone call from a specialist asthma nurse. Patients were offered a 30 min face to face review at a variety of GP locations in the region. A template for each ImpACT review was constructed and a management plan issued at each consultation. A questionnaire was devised and patients were asked to complete this approximately 6 weeks following the intervention. A 10 point scale was used to ask patient's what their confidence levels were in self-managing their asthma (0=no confidence and 10=highly confident) and how they rated their asthma control (0=poor and 10=excellent).

Results This project commenced in January 2017. Between the start date and June 2017 a total of 884 patients were reviewed as part of the service. 397 face-to-face visits, 470 telephone consultations and 17 home visits. Patient's self-rating of their asthma control significantly improved following the intervention (pre-intervention mean 3.4, standard deviation [SD] 2.2 versus post-intervention mean 8.1 [SD 1.4]; paired t-test <0.001 ; $n=23$). Patient's self-reported confidence in