Methods We retrospectively reviewed referrals with respiratory symptoms and dysphonia to the upper airway service at the Royal Brompton, over a 12 month period to 2015. PVD was identified according to accepted criteria:[1] no structural or neurological laryngeal disease, discrepancy between laryngeal status and voice quality, temporary loss of volitional control over phonation, (e.g. frequently reported as secondary to dyspnoea), normal voicing on vegetative manoeuvres (e.g. coughing) and positive psychological factors associated with onset of symptoms. Perceptual voice quality was rated using the GRBAS scale.
Results Ten female patients were identified as having PVD (70% type 2, 20% type 3, 10% type 1). All patients had preserved spirometric indices but daily symptoms of dyspnoea and dysphonia. Respiratory diagnoses at referral included chronic cough (20%), difficult asthma (50%) and unexplained dyspnoea (30%), with symptoms of between 2 months and 15 years' duration. The majority of patients (70%) were receiving treatment with either oral +/- inhaled corticosteroid prior to referral. Perceptual voice quality varied among patients, but in all cases normal voice was restored by the end of the first treatment session, leading to subjective reduction in breathlessness. Relevant psychological factors were identified as an underlying cause of the voice disorder.
Conclusion PVD is an under-recognised cause of treatment-refractory respiratory symptoms in patients with altered voice quality. Prior to referral, these symptoms are often attributed to the use of inhaled corticosteroid, yet accurate diagnosis and targeted therapy permits rapid restoration of normal voice and symptomatic improvement. This case series underpins the importance of collaborative working between SLT and respiratory medicine to ensure patients receive timely and appropriate specialist treatment.

REFERENCE

1 Butcher P, Elias A, Cavalli L. Understanding and treating psychogenic voice disorder: A CBT framework, 2007

P77 HYPOXIC CHALLENGE TESTING FOR FITNESS TO FLY IN SEVERE ASTHMA

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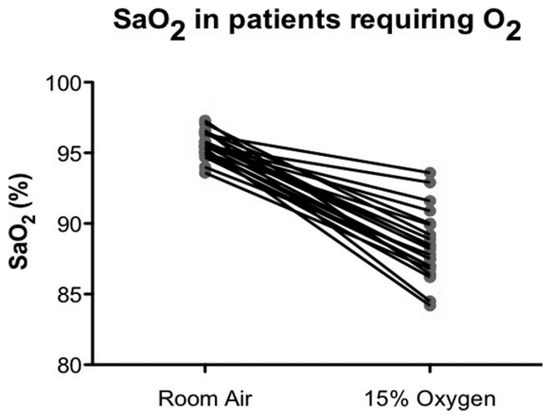
Introduction and objectives Commercial airline travel poses a recognised risk to patients with respiratory disease, including in those with asthma. Hypoxic challenge testing (HCT) is typically employed to mitigate this risk by dictating in-flight oxygen requirement. The objective of this work was to evaluate the role of HCT in patients with severe asthma.
Methods A retrospective analysis was performed of all BTS/SIGN Asthma Step 5 adult individuals under the Royal Brompton Hospital severe asthma service, who completed HCT between 2007 and 2014. In line with British Thoracic Society recommendations, under hypoxic conditions a reduction in PaO_2 to <6.6 kPa was reported as a positive result. A PaO_2 level of 6.6–7.5 kPa was considered borderline and supplemental oxygen was advised if co-existent evidence of hyperventilation. Electrocardiograph monitoring was performed in all patients during the HCT.
Results Of the 37 patients studied, 21 (57%) had a positive HCT. Individuals with a positive HCT had a lower PaO_2 under normoxic conditions (10.1 kPa v 11.4 kPa, $p < 0.01$), but similar $PaCO_2$ level (4.80 kPa v 4.91 kPa, $p > 0.05$). Baseline oxygen saturation was poorly predictive of the need for supplementary oxygen and two-thirds of patients, for whom supplementary oxygen was recommended, had a baseline SpO_2 level of greater than 95%; approximately half of these individuals desaturated to less that 90% on HCT (Figure 1). Lung function was more obstructed in the positive HCT group (predicted FEV1 (52% v 78%, $p < 0.01$). Across the entire cohort, HCT was associated with a mean rise in heart rate (HR) of 5 bpm and there was no evidence of dysrhythmia or change in QTc. A combination of any two of: baseline $PaO_2 \leq 10.5$ kPa, FEV1 ≤ 60% predicted and PEF ≤ 350 L/min predicted the need for in-flight oxygen with a sensitivity of 90% and a specificity of 69%.



Abstract P77 Figure 1

Conclusions In patients with severe asthma, baseline oxygen saturation level is poorly predictive of the need for in-flight oxygen. Our findings indicate that a HTC should be considered for all BTS/SIGN Step 5 asthmatics in whom air travel is being considered and should certainly be recommended in those with impaired lung function.

P78 STUDY OF MORTALITY IN SEVERE AND DIFFICULT TO TREAT ASTHMA

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Introduction The National Report on Asthma Death (NRAD 2014) highlighted important shortcomings related to asthma management and an important number of patients still die from asthma. However, the mortality rate and causes of mortality in the severe asthma services has not been previously reported.
Aim To study what patients with severe asthma die from and what is their risk of mortality
Methods All patients attending our severe asthma service who had died between March 2009 and December 2014 were identified. We retrieved data from case notes, GPs, local hospitals and local database using a pre designed proforma which included cause of death, place of death, age at time of death, clinical details on asthma duration, lung function, biomarkers, medication, exacerbations including hospitalisation and co-morbidities. Causes of death was obtained from death certificates and when available coroner's post-mortem reports.
Results Of the 520 patients attended our service between January 2009 and December 2014, there were 24 deaths (4.6% over 72 months, 0.7% annually). The mean age of death was 51 yrs (range 21–69), 17/24 (71%) were females. 50% had poorly