control and were potentially at risk of severe exacerbations, hospital admission and early progression to COPD.

Four further LHOp studies are planned: a pharmacy based intervention to improve asthma control/uptake of preventive interventions (smoking cessation; vaccinations); a case control study of GP asthma medication prescribing; prospective prognostic respiratory health cohort studies; and a qualitative study of asthmatic OMUs' perspectives on respiratory health and inhaler use.

## M10 THE DEVELOPMENT OF A VOCAL CORD DYSFUNCTION LARYNGOSCOPIC APPEARANCE SCALE

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**Introduction** Vocal cord dysfunction (VCD) typically involves abnormal vocal cord movement during inspiration. The recognised gold standard for diagnosis is fibreoptic laryngoscopy (FOL) during a symptomatic attack. Despite this there are no reported VCD FOL assessment scales to facilitate agreement in presentation, disease severity and treatment monitoring. Our VCD tertiary airways clinic receives over 300 referrals a year. We run a weekly diagnostic FOL list and identified the need for a VCD FOL classification for optimal care.

**Aims** To gain consensus for a VCD FOL appearance scale and identify its interrater reliability.

**Methods** An expert consensus group was convened comprising two respiratory consultant physicians and two respiratory speech and language therapists (SLTs). All have significant experience in VCD FOL interpretation. The group met, discussed and agreed on the VCD FOL appearance scale (Table 1). Two assessment teams were identified, each comprising a respiratory physician and a respiratory SLT. Each team rated patients, referred for FOL with a clinical suspicion of VCD, in three consecutive diagnostic FOL lists. All procedures were recorded and then blindly re-rated during playback by the other assessment team.

**Abstract M10 Table 1** Vocal cord dysfunction laryngoscopic appearance scale

| Scale | Classification |
|---|---|
| 0 | Normal vocal cord movements observed during respiration throughout assessment |
| 1 | Transient abnormal vocal cord movements observed during inspiration, with large proportions of normal vocal cord movements during respiration |
| 2 | Mild abnormal vocal cord movements observed during respiration (up to 50% vocal cord closure during inspiration) |
| 3 | Moderate abnormal vocal cord movements observed during inspiration (50% or more, but not total closure, i.e. gap still visible between the cords) |
| 4 | Total apposition of the vocal cords (i.e. 100% closure) observed during respiration |

**Results** Eighteen patients received ratings; the mean (range) age was 51(19–80) and 78% were female. The assessing teams agreed on the rating for seven patients. For nine patients there was disagreement but adjacent classifications. Interrater agreement was performed using a weighted kappa (1 = complete agreement in classification; 0.5 = disagreement but adjacent classifications; 0 = disagreement and non-adjacent classifications). There was moderate agreement between the teams; 0.44 with a 95% confidence interval of 0.18–0.70. There was no bias between the assessment teams, as each had mean ratings for all patients of 2.4.

**Conclusions** The VCD FOL appearance scale is a promising clinical assessment tool for the VCD population. We expected further interrater agreement; interestingly the majority of disagreement would not have changed management as classification still yielded a positive diagnosis. The differential maybe attributed to whether ratings were performed live or in playback, and this should be investigated. With further development, standardisation of application and robust validation it will be a useful assessment to direct appropriate management and facilitate accurate and consistent diagnosis.

## M11 A PRELIMINARY BIOPSYCHOSOCIAL MODEL OF VOCAL CORD DYSFUNCTION (VCD)

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**Introduction** Vocal cord dysfunction (VCD) can have a significant impact on breathing ability and quality of life.[1] Psychological factors can contribute to the onset and maintenance of the condition.[2] Little has been written about the patient experience of VCD; therefore this study sought to understand what it is like to live with the condition and develop a preliminary model of VCD.

**Methods** Six adults diagnosed with VCD were interviewed and full transcripts of each interview were analysed via Interpretive Phenomenological Analysis.[3] Six themes were generated reflecting the experiences of living with VCD. Next, the relationships between the themes were explored diagrammatically for each participant. Key phenomena or processes were fed into a summary cross-case diagram, which hypothesised how common aspects of the VCD experience may affect quality of life.

**Results** It is theorised that three key elements are interacting to influence quality of life: (1) bodily sensations, such as throat tightening, wheeze and cough can feed into a cycle of panic that exacerbates symptoms; (2) unpleasant or traumatic memories can lead to hyper-vigilance for symptoms, worry and social withdrawal; (3) enabling patients to understand, prepare and cope with the physical and mental aspects of VCD can reduce the impact of VCD on quality of life. Furthermore, environmental factors, such as the general lack of knowledge about the condition, can exacerbate negative experiences of VCD.

**Conclusions** We posit a biopsychosocial model of VCD which requires multidisciplinary treatment. In addition to speech and language therapy for throat-based symptoms, psychological interventions should be considered to address both thoughts about VCD and unpleasant memories. There is also an urgent need to improve and disseminate knowledge of the condition generally amongst medical professionals.

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