M12 THE UTILISATION OF HELIOX21 IN A TERTIARY VOCAL CORD DYSFUNCTION SERVICE

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Introduction Heliox21 reduces the work of breathing in patients with extra-thoracic airway obstruction, is not curative or intended to replace other treatments. In our specialist service we have significant numbers of patients whom have history of regular hospitalisations, relating to poorly controlled vocal cord dysfunction (VCD). The gold standard for treatment is respiratory speech and language therapy (rSLT). We increasingly value Heliox21 as an early adjunct to rSLT in severe patients who are establishing management strategies.
Aims To assess the impact of Heliox21 on patient admission rate and self-reported experience, for patients with severe VCD.
Methods We retrospectively reviewed the rSLT caseload from June–December 2014. All patients with endoscopically confirmed VCD, greater than five VCD related hospitalisations prior to the commencement of VCD treatment and who were prescribed Heliox21 for use in the community were included. We requested hospital admission data (from patient's GP and secondary care physicians) between June 2013–June 2015, and reviewed medical and rSLT notes for demographic information/co-morbidity data/opinions of Heliox21.
Results Five patients met the inclusion criteria, three were available for analysis; one male and two female (aged 23,43,57 years). All had treated co-morbidities of asthma (BTS step 5) and reflux. One patient had treated nasal disease. Six-months prior to community Heliox21 administration the mean (range) number of hospital admissions was 11 (8–13); after instigation, during the same follow-up period, this reduced by 81% (2 admissions) and two patients had no hospitalisations. In all patients rSLT occurred simultaneously. Patient opinions included, 'heliox gives me time to start my therapy and means I don't ring 999 straight away,' and, 'heliox stops me from going to A&E all the time.' Two patients, who had completed rSLT, had Heliox21 removed as it was no longer needed.
Conclusions Heliox21 has a positive impact on reducing VCD hospital admissions and is a low cost short-term solution (£160 set-up, £8.50 month). This retrospective review has limitations; the impact of rSLT alone on admission rates needs to be compared. Further investigation is needed to examine the worth of Heliox21 as an initial adjunct to rSLT, with consideration of how to prevent reliance.

M13 CLINICAL CHARACTERISTICS AND MANAGEMENT OF PATIENTS PRESENTING TO THE "AIRWAYS CLINIC"; A SPECIALISED TERTIARY MULTI-DISCIPLINARY RESPIRATORY SERVICE

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Introduction Our specialist service manages patients with vocal cord dysfunction (VCD), chronic cough (CC) and dysfunctional breathing (DB), and referrals have grown exponentially since we introduced this novel multi-disciplinary (MDT) model in 2006. The team comprises two severe asthma specialist physicians, two respiratory speech and language therapists (rSLT), a severe asthma nurse specialist, respiratory physiotherapist and clinical psychologist.
Aims To describe the clinical characteristics of those referred and assess utilisation of the multi-disciplinary structure.
Methods Patient demographics and clinical data were retrospectively collated from clinical records of patients referred between January and December 2014.
Results The service received 249 referrals. Excluding patients still in treatment or who failed to attend initial assessment, 141 complete data sets were available for analysis: 71% female; mean (range) age 55 (18–79) years. Assessment requests were for VCD (71%), CC (28%) or both (1%) and over half were from NW severe asthma centres or extra-regional specialist centres. The majority of referrals were from hospital consultants (72%), with the remainder from GPs (17%) and AHPs (11%). For VCD there was 73% agreement between the clinical suspicion on referral and nasendoscopic assessment. Approximately half had evidence of co-existent reflux (52%) and a third (29%) had nasal disease.

The majority were seen by more than one member of the MDT team; all by a specialist physician and a rSLT, 43% by respiratory physiotherapy, and 7% clinical psychology.

In the VCD cohort 64% had a previous asthma diagnosis and this was confirmed in the majority (93%) – 49(82%) were $\geq$Step 3 on BTS/SIGN guidelines; 43% were additionally referred for DB assessment; 78 flow volume loops were available and 31 (40%) were suggestive of extra thoracic inspiratory airway obstruction.

Sixty-seven patients (48%) received rSLT management [median (range) 4(1–8) sessions] with a further 16(11%) scheduled to receive it post medical intervention. Of those who completed treatment, 63% had clinically improved presentation on discharge nasendoscopy.
Conclusions A large proportion of patients referred to a specialist service for patients with complex breathlessness require multi-disciplinary intervention. There is a significant incidence of VCD and DB in patients with severe complex asthma. Of those receiving rSLT interventions, outcome was extremely effective at reducing symptoms.

Improving quality of care in COPD

M14 SURGICAL INTERVENTIONS FOR EMPHYSEMA: THE EXPERIENCE OF A COMMUNITY BASED COPD SERVICE

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Methodology Surgical interventions for emphysema have become more accessible in the last few years.[1] We have reviewed the referral rate and outcomes from our community based COPD service to a tertiary surgical centre. Our COPD service includes a respiratory consultant and nurse specialist and has access to secondary care respiratory investigations such as HRCT and pulmonary function testing.
Results During the period April 2013–March 2015 202 new referrals were made to the consultant led clinic of which 181 were subsequently diagnosed with COPD. 10 referrals for

consideration of surgical intervention were made, a referral rate of 6%. The referral rate from the same consultants secondary care clinic during this period was 8% (10 referrals from 126 new COPD patients).

Referred patients had a mean age of 60 years (range 45–72), mean COPD Assessment Test (CAT) score 19 (8–32), mean FEV1 38% predicted (22–64%) and mean RV 196% (163–246%).

All referred patients are discussed at a regional COPD MDT. 5 patients have subsequently received an intervention- 2 lung volume reduction surgery and 3 endobronchial valve placement. 2 patients declined further assessment following discussion with surgeons. 3 patients currently undegoing further investigation to assess operative risk. Outcomes from secondary care referrals were similar (3 had an intervention, 5 were declined and 2 awaiting further assessment).

Post operative CAT scores improved by an average of 9 points. Uncomplicated recovery is rare with complications ranging from wound infection to coughing up a valve. Patients felt the information given pre-operatively by the community and surgical services was at the right level, although it was noted by the community respiratory nurse that patients required significant psychological support before and after surgery.

Summary Management of complex emphysema is possible in a community setting. 6% of COPD patients were referred for assessment for surgical intervention for their emphysema. Objective and subjective patient reported outcome measures improved post operatively. Patients needed more intensive support from the community team in the peri- and post-operative periods.

REFERENCE

1 Zoumot, *et al*. Emphysema: time to say farewell to therapeutic nihilism. *Thorax* 2014;**69**:973–5

M15 USE OF E-CIGARETTES IN PATIENTS ACCESSING SECONDARY CARE IN CROYDON

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Background The introduction of electronic cigarettes on the market as a cheaper and allegedly healthier alternative to cigarettes, has led many people to use them. The aim of this study is to give us a better understanding of the increase in useage of electronic cigarettes as an aid to quitting smoking for people accessing stop smoking services in secondary care in Croydon.

Method Questionnaires were given to participants who were willing to take part. 50 participants were recruited during their hospital visit through the Croydon Respiratory Team (CRT) and the hospital based stop smoking service. Patient demographics were recorded and participants reported their behavioural changes, impact on health, reason for use, and intention of when to stop using e-cigarettes.

Results Participants were both male and female with the age range of 23–82 years. 17 participants (35%) reported a diagnosis of COPD (Chronic Obstructive Pulmonary Disease). 34 participants were single users (only used e-cigarettes) and 16 were dual users (use e-cigarettes and other NRT products). Results revealed that e-cigarettes are popular, well tolerated and various brands used. The most popular brand was Vapour Zone cigarettes with 14 users followed by V2 Cig with 8 users. The findings also showed that some patients are using 2 types of e-cigarettes: 2 participants in this study were using more than one brand at the same time. Duration of using e-cigarettes was from one week to over 18 months with 50% of patients having used e cigarettes for at least 3 months. 26 patients (52%) reported improvement in breathing and 9 patients (18%) reported a reduction in sputum. 21 patients (42%) had reduced their cigarette use and 19 (38%) had quit smoking. Out of these 25 patients who were using e-cigarettes for at least 3 months; 12 had quit smoking. 22 participants reported hearing about e-cigarettes through the media, 14 through friends, 3 from health professionals, 3 from relatives and 3 through media and friends. It was interesting to note that despite all participants wanting to stop smoking, 33 participants were not sure when they intended to stop using e-cigarettes.

Conclusions The use of e-cigarettes is common in patients accessing secondary care in Croydon. Many patients either quit or reduced smoking and many reported improvement in symptoms. Duration of use of e-cigarettes is variable but half of patients surveyed had used them for at least 3 months. Whilst this study provides some local data, further research is required to help shape future respiratory and smoking cessation services and policies.

M16 ARE WE SHOUTING LOUD ENOUGH? – A COMPARISON OF PRIMARY VERSUS SECONDARY CARE SPIROMETRY

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Background Abnormal spirometry results are a leading cause of referral to secondary care in the UK. Spirometry performed in GP practices is often supervised by nursing staff and in secondary care by dedicated respiratory physiologists. We felt that patients who performed spirometry in secondary care would be encouraged to exhale to their full capacity and achieve higher spirometric values.

Methods We collected patient spirometry values from 87 GP referral letters and compared them with the values obtained at our lung function laboratory at a district general hospital. We used a paired t-test to compare the two sets of spirometry results.

Results We found that there were significant differences between the lab FEV1 ($p = 0.034$), FVC ($p < 0.0001$) and FEV1/FVC ratio ($p = 0.0001$) compared to primary care values. There was a 77 ml average increase in FEV1 and a 241 ml average increase in FVC when spirometry was performed in our lung function lab.

Importantly, when we looked at the individual results, 18 patients (21%) originally deemed to have restrictive spirometry had obstructive spirometry when performed in our lab. Six patients (7%) originally had obstructive spirometry which proved to be normal or restrictive in our lab.

Conclusions A significant difference was identified between GP and secondary care spirometry. The most important aspect of this is the understanding that spirometry is effort based. Most patients require significant encouragement to perform to their limit. If a less than maximal effort is made, the FVC value is most affected. This may cause truly obstructive spirometry to appear restrictive.

Primary care spirometry gave a misleading picture in 28% of cases in this cohort, resulting in instances where referrals, investigations and treatments might have been avoided and possibly