(BTS) Difficult Asthma Network)., London, UK; [4]Queen's University Belfast (on behalf of the British Thoracic Society (BTS) Difficult Asthma Network)., Belfast, UK

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Introduction and Objectives NICE Guidance for bronchial thermoplasty (BT) recommended the collection of safety and efficacy outcomes through the BTS Difficult Asthma Registry. This study summarises the data collected to June 2013, with objectives of describing the demographic and baseline characteristics of patients undergoing BT and early consideration of safety and efficacy, which will be updated for presentation at the December 2013 meeting.

Methods Records for 21 patients from 5 UK centres were studied. Age, gender, lung function and quality of life were compared to those reported in two previous clinical trials. Potential safety issues were examined and efficacy outcomes compared to baseline.

Results Data:20 baseline records, 62 BT procedure records, 9 patients followed up to 6 months, 7 followed up to 12 months. At follow-up, 12 patients had data at 6 and/or 12 months for pre bronchodilator FEV_1 and AQLQ to enable comparison with baseline. Baseline demographics and characteristics are presented in Table 1.

Outcomes: one patient was re-admitted to hospital for 3 days with an exacerbation after the second of three routine BT procedures, but recovered to complete the final procedure. 17 patients were admitted post-procedure (max 8 days) but no adverse outcomes were reported. Mean AQLQ score at 6 months was 4.61 ± 1.80 (n = 10). 6/10 patients had improved AQLQ (> 0.5 above baseline) at 6 months and 2/3 at 12 months. 1/10 patients had worse AQLQ (> than 0.5 below baseline) at 6 months and 0/3 at 12 months. Mean pre-bronchodilator FEV_1 (% of predicted) at 6 months was 64.88 ± 26.57 (n = 8) and at 12 months 75.20 ± 13.77 (n = 5).

Conclusions Early indications are that this cohort are marginally older and have worse mean lung function and AQLQ scores at baseline than patients in two previous clinical trials.No serious issues relating to equipment or adverse outcomes were observed. Patients were often admitted post-procedure - this may have been precautionary, as there were no reports of unanticipated procedural morbidity. To date, efficacy outcomes appear consistent with those observed in previous clinical trials, with a suggestion of smaller improvement in AQLQ score.

Abstract P171 Table 1. Baseline demographics and characteristics.

	BT registry	*AIR2 trial*	*AIR trial*
Mean age (years)	44.3 ± 11.5 (n=21)	40.7 ± 11.9 (BT)	40.0 ± 11.2 (BT)
	Range 23-69	40.6 ± 11.9 (C)	40.8 ± 12.1 (C)
% female	57	59	57
Pre-bronchodilator FEV_1	70.25 ± 23.5 (n=16)	77.8 ± 15.7 (BT)	72.5 ± 10.9 (BT)
(% of predicted)	range: 22-105	79.7 ± 15.1 (C)	74.9 ± 8.9 (C)
AQLQ score	4.17 ± 1.2 (n=14)	4.30 ± 1.17 (BT)	5.6 ± 0.9 (BT)
	range 2.44 - 6.31	4.32 ± 1.21 (C)	5.6 ± 0.9 (C)

Monitoring and management of sleep disordered breathing and respiratory failure

P172 ACUTE NIV AND MORTALITY - FAILURE OF DELIVERY OR PATIENT SELECTION?

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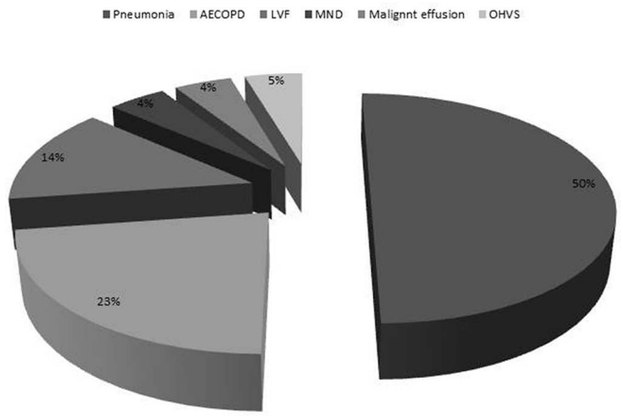
Background Non-invasive ventilation (NIV) is an established treatment for patients with acute ventilatory failure. It can be successfully provided on a specialist ward, rather than intensive care (ICU) when certain criteria are met. It is frequently delivered outside ICU when a patient is deemed not suitable for invasive ventilation.

Methods Deaths in 2012 on our dedicated ventilation unit were analysed as part of ongoing clinical governance. Information on demographics, admission diagnosis, respiratory and metabolic acidosis, consolidation or pulmonary oedema on chest radiograph reports, Glasgow Coma Score (GCS), serum creatinine and hospital length of stay prior to NIV were recorded. Escalation of care and resuscitation decisions were noted.

Results There were 228 admissions for acute NIV, with 31 recorded deaths (13.6%), 22 case notes were available for review. Mean age was 79 years, 77.3% had known COPD, admission median MRC score of 4, and 18.2% had been in hospital for >7 days before NIV. All had acute hypercapnic respiratory failure. Not for resuscitation decisions had been made for 95.5% prior to NIV, and 100% had NIV as a 'ceiling of care'. Mean pH was 7.25 (SD 0.06), similar to previous reports of admissions to our unit[1], 22% had mixed acidosis (BE <-2.0 mmol/l). GCS was <8 in 9% and 36.4% had serum creatinine >100 mol/l, all triggering alerts for acute kidney injury. Admission diagnoses are shown in figure 1. Radiographic consolidation was reported in 59.1% and pulmonary oedema in 18.2%.



Abstract P172 Figure 1. Admitting diagnoses based on initial clinician assessment.

Conclusion The mortality of patients receiving acute NIV is low[2]. Most deaths had an underlying diagnosis of COPD, they were an elderly frail group, deemed inappropriate for escalation to critical care. There were multiple risk factors for NIV failure on initiation of therapy. Whilst a trial of NIV may have been appropriate based purely on blood gases, it was at high risk of failure and discussion about end of life care may have offered an alternative approach.

REFERENCES

1. Chakrabarti *et al*. *Thorax* 2009;857–62.
2. Roberts *et al*. *Thorax* 2010;43–8.