

Introduction Non-invasive ventilation (NIV) in motor neurone disease (MND) is an evidence-based therapy, recommended by NICE. A single centre randomised trial of 41 patients underpins much of current practice,¹ it was suggested our patient cohort may differ from those in the original trial work.

Methods Retrospective review of all patients offered NIV from 01.01.2013 to 30.06.2015. Data was taken from the initial neurology referral, and NIV set-up. Demographics were compared with the Newcastle study¹ (Table 1). Twelve month survival, and/or death post NIV initiation were assessed.

Abstract P195 Table 1 NIV trials for MND (January 2013–June 2015)

	Sleep and Ventilation Service Trial of NIV (n=51)	Bourke et al (2006) NIV group (n=22)
Age, years	66.4 (9.9)	63.7 (10.3)
Age > 75 years	8 (15.6%)	Excluded in study protocol
Sex, male	30 (59%)	14 (64%)
Bulbar signs at trial NIV	29 (57%)	-
PaO ₂ , kPa	9.2 (2.8)	10.0 (1.8)
PaCO ₂ , kPa	6.3 (1.3)	6.1 (1.1)
Body-mass index	23.8 (4.7)	21.6 (3.6)
Mean sleep SpO ₂ , %	89.4 (3.3)	92.7 (4.0)
% Sleep SpO ₂ <90%	29.6 (30.5)	27.2 (40.0)
ALSFERS-R score [x/48]	30.6 (9.0)	-
Carers required at home	15 (29%)	-
Oxygen issued with NIV	8 (15.6%)	-
IPAP, cmH ₂ O	14 (4.3)	15 (-)
EPAP, cmH ₂ O	5 (1.4)	4 (-)
Face / Nasal Interface	6 / 45	-

Legend: Data are number (%) or mean (SD). PaO₂ = arterial partial pressure of oxygen, PaCO₂ = arterial partial pressure of carbon dioxide. ALSFRS-R = Amyotrophic Lateral Sclerosis Functional Rating Scale – Revised (score/48). IPAP = Inspiratory Positive Airway Pressure, EPAP = Expiratory Positive Airway Pressure.

Results Sixty-three patients were offered trial of NIV; 5 declined admission, and 7 declined NIV. Fifty-one patients were discharged with NIV, of whom 4 rapidly discontinued ventilation. Forty-seven patients were followed as NIV users, 35 for at least a year or to death.

Fifty-seven percent were documented as having bulbar symptoms, the severity of which were not formally assessed. Twenty-nine percent received formal carer support at NIV initiation. Of the 35, 24 (68.6%) died within one year of NIV commencement, and median survival for all deaths was 177 days (range 4–630 days). Patients who died were significantly more likely to have bulbar dysfunction (18/24, $p = 0.003$) with a trend to reduced survival, median 149 vs. 239.5 days non-bulbar ($p = 0.09$). Twenty patients are alive at data collection, current median survival 292 days (range 7–793 days) and this data will affect results. Those with carers in place had a significantly lower ALSFRS-R (26.3 vs 32.4, $p = 0.008$) and shorter median survival (135 days). Of those dying or surviving at least a year, 22/35 (63%) were issued with cough-assist support (18/22 mechanical in/exsufflation).

Conclusions Our cohort and outcomes are similar to those in the Bourke trial. Patients with bulbar disease, and/or pre-existing care input may have worse survival. Current users will be followed up to complete the dataset for survival. The impact of bulbar disease, cough augmentation² and carer need remain uncertain. Ways to better assess and support these groups should be sought, and adequately powered randomised trials in these areas developed.

REFERENCES

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A LOCAL DOMICILIARY NON-INVASIVE VENTILATION (NIV) SERVICE REDUCES LENGTH OF HOSPITAL STAY FOR PATIENTS UNABLE TO WEAN FROM NIV

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Background NIV is a clinically proven treatment for acute hypercapnic respiratory failure.¹ Most patients are fully weaned from NIV before discharge from hospital but some with chronic ventilatory failure require long term NIV at home. Historically, these patients would need to wait for inpatient transfer to a tertiary centre for NIV titration. Due to the high demand for tertiary centre beds, this could take days to weeks. By this time, patients would frequently be optimised and stable on domiciliary NIV settings and only require transfer for equipment issue. A local domiciliary NIV service was commissioned in April 2012 to provide an integrated secondary care and community service closer to home and to reduce delayed discharge.

Method Data were collected prospectively from 83 consecutive patients between October 2006 and May 2014 (395.6 weeks) from patients on a respiratory ward, unable to fully wean and requiring domiciliary NIV on discharge.

Results See Table 1.

Abstract P196 Table 1 Length of stay before and after the initiation of a local NIV service

	Pre-local NIV service n = 56	Post local NIV service n = 27
Length of stay (days)	16 (3–97)	12 (3–48) t-test $p = 0.273$
Data are median (range).		

Discussion Length of stay was reduced by an average of 4 days after the local domiciliary NIV service was initiated. Although this difference did not reach statistical significance it is certainly clinically significant, with huge pressure on clinicians to discharge patients in a timely manner. By managing the majority of these patients locally, it is hoped that the resources of the tertiary centres would be freed up to accept the very complex cases that still require tertiary centre input.

Conclusion The provision of a local Domiciliary NIV service reduces length of stay by reducing waiting times for inpatient transfer to tertiary centres.

REFERENCE

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