

**P245 A DEDICATED PNEUMONIA FOLLOW UP CLINIC-IS IT WORTHWHILE?**

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10.1136/thoraxjnl-2013-204457.397

**Background** It is routine clinical practice, based on British Thoracic Society recommendations, to arrange a clinical review and chest x-ray approximately 6 weeks following an episode of pneumonia in most patients. However there is a paucity of published evidence to support or refute this practice.

**Objective** To determine the clinical and radiological outcomes of patients admitted with an episode of pneumonia.

**Methods** This was a retrospective analysis of the post-pneumonia clinic database at a large district general hospital over a one year period from May 2011 to April 2012. Data on demographic characteristics, radiological and clinical follow up, and final diagnosis were collected. Follow up data including a new diagnosis of cancer as well as new benign lung disease was available for most (97%) patients for 12 months after the index episode of pneumonia. Resolution was defined as complete resolution on chest X-ray at 6–8 weeks or >90% resolution on chest X-ray, absence of ongoing physical symptoms and signs, and decision to discharge from clinic after discussion at a multi-disciplinary radiology meeting.

**Results** 179 patients were included in the analysis (32 who did not attend for follow up were excluded). One hundred and thirty nine (78%) showed resolution and were discharged. Of the 40 (22%) patients that did not show resolution, 16 (9%) had a new diagnosis made; including 3 (1.7%) lung cancer. One of the identified lung cancers was stage I disease, while the other two were stage IV. New benign diagnoses made on follow up were recurrent aspiration (3), interstitial lung disease (2), pleural effusion (2), allergic bronchopulmonary aspergillosis (1), cryptogenic organising pneumonia (1), functional antibody deficiency (1), lung nodule (1), pleural plaques (1), and pulmonary embolism (1). Males, ever smokers, older patients, and those with a history of pre-existing lung disease (including COPD) had higher rates of non-resolution but the differences were not statistically significant.

**Conclusion** Following up patients in a dedicated post pneumonia clinic with a repeat chest radiograph and clinical review had a low but significant pick up rate of new respiratory diagnoses. A larger study will be performed to improve risk stratification and enable more selective follow up.

**Abstract P245 Table 1. Comparison of clinical characteristics of patients with resolved versus non-resolved pneumonia**

Clinical characteristics	Resolved (n = 139)	Did not resolve (n = 40)	P value
Male (n, %)	67 (48.2%)	13 (32.5%)	0.078
Age (mean +/- SD)	65.57 (15.8)	70.56 (12.1)	0.064
Age >= 50 years (n, %)	115 (83%)	38 (95%)	0.052
Current or former smokers (n, %)	92 (66.2%)	29 (72.5%)	0.452
Any previous lung disease (n, %)	76 (54.7%)	28 (70%)	0.081
History of COPD (n, %)	56 (40.3%)	23 (57.5%)	0.053
History of any cancer within 5 years (n, %)	8 (5.8%)	2 (5%)	-
History of lung cancer within 5 years (n, %)	2 (1.4%)	0	-

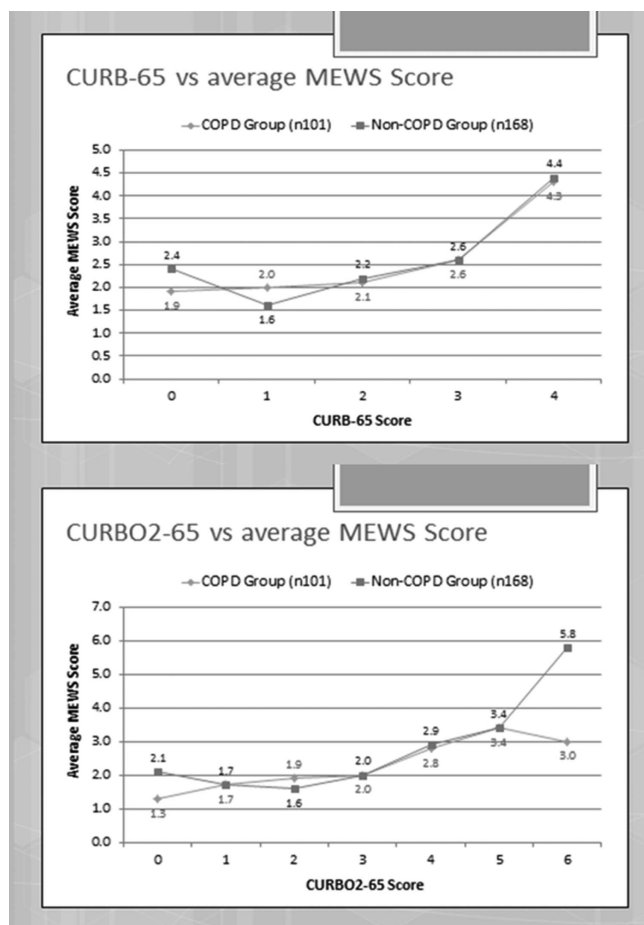
**P246 CURBO2-65 HAS BETTER CORRELATION THAN CURB65 WITH MODIFIED EARLY WARNING SCORING SYSTEM (MEWS)**

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10.1136/thoraxjnl-2013-204457.398

**Introduction** For patients admitted to hospital with pneumonia, CURB65 (confusion, Urea>7, Respiratory Rate>30 and Blood Pressure<90/60) is used to assess severity of the pneumonia (1). MEWS is a score which informs about the physiological status of a patient thus about the patients overall clinical status. One would anticipate CURB65 to be correlated to MEWS however there is no evidence to support correlation particularly on admission. The body's capability to maintain adequate oxygenation when affected by pneumonia is of paramount importance. Oxygen was originally excluded from CURB65 due to non-statistical significance for predicting mortality. We felt CURB65 may not correlate with MEWS on admission hence introduced a new score incorporating oxygen to CURB65 score - CURBO2-65. COPD patient's with SATS <88% or Non-COPD with <94% would score 1 and any patient receiving supplemental oxygen to maintain their SATS in desired range would score 1. The maximum score for oxygenation is 2 and maximum score on CURBO2 65 is 7 instead of 5 as in CURB65.

**Method** We retrospectively analysed all pneumonia patients (COPD and Non-COPD) admitted to hospital for 2 consecutive months (December 2012 and January2013). Data was collected



**Abstract P246 Figure 1.**

from our Advancing Quality team who keep a record of all pneumonias admitted. CURB 65 score and MEWS was collected from the documentation on admission and CURBO2 65 was calculated by applying above criteria for oxygenation.

### Results

#### Average MEWS and CURB Scores

Score	COPD (101 patients)	Non-COPD (168 patients)
CURB - 65	p value: 0.0921	P value: 0.0228
CURBO2 - 65	P value: 0.0054	P value: <0.0001

**Conclusion** CURB65 does not have predictable correlation with MEWS on admission. By incorporating oxygen into CURB65 and converting to CURBO2 65, we demonstrated its enhanced capability to correlate with MEWS on admission.. Further valid-ity prospective studies are required to confirm our findings.

### REFERENCE

1. Defining community acquired pneumonia severity on presentation to hospital: an international derivation and validation study
2. W S lim, M M van der Eerden, R Laing, W G Boersma, N Karalus, G I Town, SA lewis, J T Macfarlane

### P247 CURBO2-65 IS SUPERIOR TO CURB-65 IN PREDICTING READMISSIONS, LENGTH OF STAY AND IDENTIFYING SICKER PATIENTS

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10.1136/thoraxjnl-2013-204457.399

**Introduction and Objectives** Community Acquired Pneumonia (CAP) accounts for a significant proportion of hospital admissions and is a common cause of mortality and morbidity in UK. CURB-65 is recommended by BTS and widely used to stratify patients according to severity and guide initial treatment (1). As oxygen is not part of the CURB-65 assessment, we incorporated

**Abstract P247 Table 1. CURB-65 versus CURBO2-65.**

	CURB-65		CURBO2-65	
	Score	Rate(%)	Score	Rate(%)
<b>Readmission within 28 days</b>	0	10	0	0
	1	18	1	14
	2	30	2	25
	3	19	3	26
	4	16	4	25
<b>Length of Stay</b> (Mean number of days)	Score	Days	Score	Days
	0	6.3	0	5.2
	1	6.8	1	5.9
	2	8.3	2	7.7
	3	9.9	3	8.6
	4	10.8	4	8.8
	-	-	5-6	11.3
<b>Critical Care Admission</b>	Score	Number of cases	Score	Number of cases
	0	0	0	0
	1	2	1	0
	2	5	2	2
	3	3	3	3
	4	2	4	3
	5	0	5	3
	-	-	6	1

Oxygen saturations (SATS) to CURB-65 to create CURBO2-65 score. We then compared CURBO2-65 with CURB65 to assess if CURBO2-65 would be a superior indicator in identifying patients with severe pneumonia.

**Methods** We retrospectively reviewed electronic medical records of patients who were diagnosed with CAP between December 2012 and January 2013. CURB-65 was documented for all the cases whilst CURBO2-65 scores were retrospectively calculated. A score of 1 was allocated if SATS were <88% for COPD patients or <94% for non-COPD patients. A score of 1 was added if they were on supplemental Oxygen to maintain their SATS.

**Results** (see Table 1)

Total of 269 admissions with CAP were analysed. 12 of these 269 patients were admitted to critical care. 2/12 (ITU) patients had a CURBO2-65 score of  $\leq 2$  whilst 7/12 had a CURB-65 score  $\leq 2$ . CURBO2-65 also had a better correlation with MEWS than CURB-65 on admission ( $p < 0.05$ ).

Only 10% of cases with a CURBO2-65 score of 0-1 (5/50) were readmitted within 28 days compared to 15% of cases with a CURB-65 score 0-1 (13/87).

There was a statistically significant correlation between length of stay and CURB-65 ( $p = 0.0085$ ) and CURBO2-65 ( $p = 0.0014$ ).

**Conclusions** CURBO2-65 is superior to CURB-65 in identifying sicker cohort of patients, predicting readmission rates and length of stay. Adding Oxygen to CURB-65 is simple and can be undertaken even in primary care setting (CRBO2-65 instead of CRB-65).

### REFERENCES

1. Lim WS *et al.* Defining community acquired pneumonia severity on presentation to hospital: an international derivation and validation study. *Thorax* 2003;58:377-382.

### P248 LEGIONELLA PNEUMONIA OUTBREAK RELATED TO A DISPLAY SPA POOL AT A RETAIL UNIT

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10.1136/thoraxjnl-2013-204457.400

**Background** Legionella pneumonia (LP) has been reported in a number of outbreaks in the UK. It has significant implications for public health as outbreaks require investigation to identify a responsible source. An outbreak of LP occurred in the Stoke-on-Trent area of North Staffordshire in July 2012. This is an analysis of the clinical cases reported and subsequent public health enquiry. **Method** Retrospective review of case records, pathology and radiology. Data was collated on clinical and biochemical features, microbiology and clinical outcome. Results of the public health enquiry were sourced from the local Health Protection Agency (HPA). **Results** 20 patients were confirmed to have LP. 13 male, 7 female. Mean age was 65 years. 50% were ex-smokers. 70% had

**Abstract P248 Table 1. Clinical, biochemical and radiology findings.**

Fever > 38°C	11 (78%)
Type 1 respiratory failure	9 (45%)
Type 2 respiratory failure	1 (0.05%)
CRP > 300	9 (45%)
Hyponatraemia (Na < 130)	7 (35%)
LFT derangement (ALT > 40)	16 (80%)
Hypoalbuminaemia (< 25)	10 (50%)
Consolidation on CXR	19 (95%)