Abstract P262 Figure 1 Aspiration penetration and number of chest infections

Community acquired pneumonia (CAP) is a leading cause of admission and mortality. CURB-65 is the traditional risk stratification score. This can under predict severity in the young and does not predict requirement for higher level care. Combining CURB-65 with lactate can improve this.¹ We reviewed CAP admissions over one month to determine if lactate improved risk stratification.

CAP patients were identified via coding. Authors reviewed admission chest radiographs and reports to confirm CAP. CURB-65 score was calculated from the electronic patient record (EPR), and electronic discharge letters. Lactate values were identified from Emergency Department documents scanned into EPR. Accuracy of coding and mortality in a wrongly coded group was a secondary measurement. A LAC-CURB score of low, medium or high was allocated.

138 episodes of CAP were coded. 89 were confirmed CAP. Mean age was 71.2 yrs (21–98). CURB-65 score was available in 87. 45 scored CURB-65 0–1 with 2 deaths (4.4%). 24 were CURB-65 2, with 8 deaths (33.3%) and 6 of 18 CURB-65 3–5 patients died (33.3%).

A lactate value was available in 52. 16 had a low LAC-CURB score with 0 deaths and 1 ICU admission. 23 had a medium score, with 3 deaths (13%) and 2 ICU admissions. 13 had a high LAC-CURB score, with 4 deaths (31%) and 1 ICU admission. In 4 patients it was the lactate value that increased the risk category from a medium CURB-65 score to a High LAC-CURB score. All 4 were admitted to ICU, with 2 deaths. Length of stay did not alter significantly with CURB-65 or LAC-CURB, but increased with severity. Diagnoses were available in 45 of the 49 patients

coded incorrectly as CAP with a 17.78% mortality rate, identical to the CAP group.

Mortality was higher for medium and high CURB-65 patients, but a difference between them was only seen when the LAC-CURB score was applied. A high lactate identified patients in the medium CURB-65 group who died or required higher level care. Patients wrongly coded as CAP also have a high mortality.

REFERENCE

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P264 PREDICTING MORTALITY IN HOSPITAL ACQUIRED PNEUMONIA: A MULTIVARIATE ANALYSIS

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Background Hospital Acquired Pneumonia (HAP) is defined as lung infection in a non-intubated patient with new infiltrates on chest X-ray, >48 hours after hospital admission. Prediction scores exist for Community Acquired Pneumonia (CAP); no such scores exist in HAP. We aimed to identify features which are predictive of mortality in HAP.

Methods All cases coded as HAP in Heart of England Foundation NHS trust in 2013 trust were identified (293 cases). For each of these cases the chest X-ray (including radiologists report) was reviewed; if X-ray did not show infiltrates consistent with pneumonia, cases were excluded leaving 153 cases for whom case notes were reviewed. Cases were excluded if diagnosis of HAP

Abstract P264 Table 1

Feature and cut-off used	Death during Admission		Death within 12 months	
	P-value	Odds Ratio and 95% Confidence Interval	P-value	Odds Ratio and 95% Confidence Interval
Age > 65	0.376	OR 1.51 [CI: 0.422–5.437]	0.295	OR 1.707 [CI: 0.492–5.924]
>5 co-morbidities	0.610	OR 0.821 [CI: 0.396–1.699]	0.081	OR 0.457 [CI: 0.185–1.107]
Haemoglobin <120g/L	0.226	OR 1.40 [CI: 0.689–2.847]	0.181	OR 1.541 [CI: 0.713–3.330]
Urea >7.8 mmol	0.005**	OR 2.663 [CI: 1.312–5.40]	<0.001**	OR 3.412 [CI: 1.63–7.17]
White Cell Count (WCC) >12 × 10 ⁹ /L or <4 × 10 ⁹ /L	0.082	1.72 [CI: 0.870–3.401]	<0.039**	OR 2.034 [CI: 0.986–4.197]
New confusion	0.821	OR 0.882 [CI: 0.325–2.391]	0.030**	OR 0.347 [CI: 0.117–1.00]
Respiratory rate >20 breaths per minute	0.541	OR 1.027 [CI: 0.510–2.067]	0.441	OR 1.138 [0.542–2.389]
Pulse >90 beats per minute	0.044**	OR 1.921 [CI: 0.969–3.801]	0.030**	OR 2.132 [CI: 1.029–4.420]
Systolic BP <100 mmHg	0.439	OR 1.226 [CI: 0.455–3.309]	0.595	OR 1.026 [CI: 0.358–2.94]
Diastolic BP <60 mmHg	0.415	OR 0.844 [CI: 0.383–1.863]	0.439	OR 0.862 [CI: 0.380–1.96]

**Represents significance at $p < 0.05$. Fishers exact test on 2×2 table, using R statistical package. OR = Odds Ratio CI = 95% confidence interval

was made <48 hours after admission leaving 136 cases. Data was collected regarding demographics, co-morbidities, investigations, observations, mortality during admission and within 12 months.

Univariate analysis was conducted to identify features associated with mortality. Multivariate analysis was completed using identified associated features.

Results Sixty-four cases (47.0%) died during admission; and a further 32 within 12 months (70.5%).

Demographics: Mean age was 81.6 years (range 52–98); mean number of co-morbidities was 5 (range 0–11). Mean haemoglobin was 110.9 g/dL. The mean white cell count (WCC) was $13.68 \times 10^9/L$ (range 1.87 – $51.7 \times 10^9/L$). Mean urea was 10.5 mmol/L (range 1.9–6.1 mmol/L)

Univariate analysis: Table 1 shows the results of the univariate analysis.

Multivariate analysis: Only combination of raised urea and raised or low WCC were significantly associated with mortality ($p = 0.024$). Adding features of age, observations and co-morbidities did not improve prediction of mortality.

Conclusion Prediction of mortality in HAP is more complex than in CAP. On multivariate analysis, raised urea and raised or low WCC were predictive of mortality. Other features including age, number of comorbidities and observations at the time of diagnosis were not associated with mortality. This perhaps reflects our elderly cohort, with the majority having multiple co-morbidities, with very small numbers aged <65 years or with few co-morbidities. Further work with a larger dataset is ongoing.

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CONCURRENT STATIN AND MACROLIDE USE DURING PNEUMONIA TREATMENT IMPROVES SURVIVAL TO HOSPITAL DISCHARGE AND BEYOND

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Abstract P265 Figure 1