S7 HIGH MORTALITY FROM INVASIVE PNEUMOCOCCAL PNEUMONIA IN THE ERA OF VACCINE PREVENTABLE DISEASE

K Ferguson, M Wilczynska. *Hairmyres Hospital, Renfrew, UK*

10.1136/thoraxjnl-2017-210983.13

Introduction and Objectives Bacteraemia secondary to pneumococcal pneumonia is the most common presentation of invasive pneumococcal disease (IPD) and is associated with high mortality rates.¹ We conducted this study to evaluate differences in the process of care and outcome in patients with community-acquired invasive pneumococcal pneumonia (CAIPP) depending on age, co-morbidities and vaccination status.

Methods This was a retrospective study that analysed the data for patients with CAIPP who were hospitalised in 2016 at NHS Lanarkshire hospitals.

Results Forty-five of 60 patients with pneumococcal bacteraemia had IPD secondary to community-acquired pneumonia. The mean age of the patients was 61 years (17–101). The CURB 65 score was 0–1 in 55% patients, 2 in 12% and 3–5 in 33%. Overall 30 days mortality was 22%. The odds ratio of death within 30 days from CAIPP was 15.9 (95% CI: 1.8–140, $p=0.012$) among those who had any co-morbidity involving major organ (cardiac, respiratory, renal or liver failure). Thirty days mortality showed the strongest positive association with age ($r=0.46$, $p=0.001$) therefore patients were divided into two groups according to their age (Table 1). There was no difference between groups in time to reach diagnosis or initiate treatment. Within 4 hours of admission, a chest x-ray was obtained in 88% in Group 1 vs. 89% in Group 2 ($p=NS$), and the first dose of antibiotics was administered within 4 hours in 90% in Group 1 vs. 94% in Group 2 ($p=NS$). 79% patients in Group 2 had at least one major co-morbidity vs. 46% in Group 1 ($p=0.012$). Group 2 had significantly higher 30 days mortality than group 1, 47% vs 3.8% ($p=0.002$). In the Group 2, among deceased 44% (4 of 9) have not received pneumococcal vaccination. Only 4 of 26 patients in Group 1 were vaccinated against *Streptococcus pneumoniae*.

Conclusions Clinical significance of IPP is underestimated in older people. Despite satisfactory initial assessment and prompt treatment mortality remains very high. That could be associated with the presence of co-morbidities and insufficient level of pneumococcal vaccination.

REFERENCE

1. Ludwig E *et al.* The remaining challenges of pneumococcal disease in adults. *Eur Respir Rev* 2012;21:57–65.

S8 RISK STRATIFICATION IN COMMUNITY ACQUIRED PNEUMONIA – CURB65, SIRS OR QSOFA? A RETROSPECTIVE ANALYSIS

¹DPS Dosanjh, ¹F Grudzinska, ¹K Aldridge, ²S Hughes, ¹D Thickett. ¹Institute of Inflammation and Ageing, University of Birmingham, Birmingham, UK; ²University Hospitals NHS Foundation Trust, Birmingham, UK

10.1136/thoraxjnl-2017-210983.14

Introduction and Objectives The British Thoracic Society and National Institute for Health and Care Excellence recommend

Abstract S7 Table 1 Demographics and clinical data for group 1 and group 2.

Variables	Group 1 (<65 years old)	Group 2 (≥65 years old)
	n=26	n=19
Age years (mean)	47.9	81
Females (n)	9	12
CRP mg/dL (mean)	254	214
WBC $\times 10^9/L$ (mean)	17.9	13.8
Chest x-ray:	62	63
-lobar consolidation (%)	26	31
-multilobar consolidation (%)	12	6
-consolidation and pleural effusion (%)		
Hospitalisation (days)*	8.6	9.6
30 days mortality (n)	1	9
30 days readmission (n)	2	2
Door to antibiotics time (min)	103.5	99
Door to chest x-ray time (min)	146	101
Antibiotics duration (days)*	12.7	9.3
Antibiotics in the community before admission (n)	3	1
Antibiotics according to local guidelines (%)	53	36

* $p<0.05$

the CURB65 for severity assessment in community acquired pneumonia (CAP). The Third International Consensus Definitions for Sepsis and Septic Shock however, state that the qSOFA (quick Sequential Organ Failure Assessment) should be used to identify those with infection who are likely to have poor outcomes. This superseded the SIRS (Systemic Inflammatory Response Syndrome) criteria. There is therefore no clear international consensus regarding how severity of CAP should be assessed outside the critical care setting. We retrospectively evaluated the ability of the CURB65, SIRS and qSOFA scores to predict 30 day mortality in patients with CAP.

Methods Adults admitted to the Queen Elizabeth Hospital Birmingham, with CAP, between 10/2014 and 01/2016 were included. Radiology, admission clerkings and electronic patient records were reviewed to confirm pneumonia and calculate the scores. Cases were excluded if there was no radiological confirmation, or if they had hospital-acquired pneumonia.

Results 1545 patients were included in the final analysis (mean age 72, 30 day mortality 19.0%, 49.1% female). All scoring systems enabled stratification according to increasing risk of 30 day mortality. CURB65: 0%–3.5%, 1%–11.5%; 2%–18.5%; 3%–27.1%; 4%–42.7% and 5%–42.1% ($p<0.001$). SIRS: 0%–10.4%; 1%–13.5%; 2%–18.1%; 3%–22.5%; 4%–32.5% ($p<0.001$). qSOFA: 0%–11.9%; 1%–17.9%; 2%–30.1%; 3%–47.2% ($p<0.001$). Receiver operator characteristic curves calculated to determine the accuracy with which the scores were able to predict 30 day mortality, revealed areas under the curve of 0.69, 0.60 and 0.63 for CURB65, SIRS and qSOFA respectively. Using the established cut-offs of CURB65 ≥ 2 , SIRS ≥ 2 and qSOFA ≥ 2 , sensitivities, specificities, negative and positive predictive values for prediction of 30 day mortality were calculated (Table 1). Of those that died within 30 days, qSOFA ≥ 2 correctly identified