

This suggests other factors must be important in predicting COPD readmissions.

P157 **CANCER PATIENTS WITH SEVERE COMMUNITY ACQUIRED PNEUMONIA HAVE POORER OUTCOMES DUE TO INCREASED ILLNESS SEVERITY AND SEPTIC SHOCK AT ADMISSION TO INTENSIVE CARE**

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Introduction Patients with community acquired pneumonia (CAP) and an underlying diagnosis of cancer have worse outcomes. However, the characteristics of cancer patients with severe CAP admitted to intensive care units are not well defined. **Methods** An observational study of patients admitted to a University hospital ICU with a primary diagnosis of CAP between January 2006 and October 2011.

Results 96 patients met our inclusion criteria for a diagnosis of severe CAP. 19 (19.8%) had cancer at the time of admission to ICU (57.9% with haematological malignancy and 42.1% with solid organ cancer). There were no statistically significant differences in age, gender or co-morbidities between those with and those without cancer. Patients with cancer had significantly higher median [IQR] APACHE II (25 [20–19] vs 20 [16–24]; $p = 0.009$), SAPS (51 [42–62] vs 42 [34–53]; $p = 0.039$) and SOFA (12 [10–13] vs 9 [4–12]; $p = 0.018$) scores and a longer median [IQR] time interval between hospital and ICU admission (2 [1–5] vs 1 [0–3] days; $p = 0.049$). There were no statistically significant differences in the proportion of patients receiving mechanical ventilation or renal support and no differences in the duration of mechanical ventilation or duration of ICU or hospital stay. Patients with cancer included a significantly greater proportion of patients receiving vasopressors (89.5% vs 63.6%, $p = 0.030$) and a markedly increased ICU (68.4% vs 31.2%, $p = 0.004$) and hospital mortality (78.9% vs 33.8%, $p = 0.001$). There were no significant differences in leukocyte counts, CRP, clotting (PT, APTT and INR), renal function (urea and creatinine) or liver function (AST and ALT). There were no significant differences in heart rate, temperature, systolic blood pressure or oxygenation index. However, patients with cancer had significantly lower median diastolic blood pressure (40 mmHg vs 50 mmHg, $p = 0.026$).

Conclusion Cancer patients with severe CAP continue to have an increased risk of death that appears to be related to increased illness severity at the time of ICU admission associated with septic shock. A delay in recognising the need for intensive care support in cancer patients with severe CAP may possibly explain the increased illness severity at the time of ICU admission.

P158 **EVALUATION OF VITAL CAPACITY CHANGES IN SPINAL INJURED PATIENTS DURING EPISODE OF SEPSIS**

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Introduction Respiratory complications have been suggested as cause of death in approximately 60% of spinal cord injured patients requiring ventilation after spinal cord injury.¹ The vast

Abstract P158 Table 1

Level	ASIA	Baseline VC	VC when unwell	Change in VC (%)
C4	A	1200	600	600 (50%)
C4	A	2200	500	1700 (77%)
C4	C	2500	650	1850 (74%)
C4	A	2900	1500	1400 (48%)
C4	C	1630	980	650 (40%)
C4	A	3000	2930	70 (2.3%)
C4	A	1200	1000	200 (16%)
C4	A	3000	1590	1410 (47%)
C4	A	2550	1750	800 (31%)
C6	B	1800	650	1150 (63%)
C6	B	3400	800	2600 (76%)
C6	B	3570	2650	890 (25%)
T4	A	4000	3480	520 (13%)
T8	A	4000	1680	2320 (58%)
T8	C	3250	1920	1330 (41%)
T9	D	1400	800	600 (43%)

majority of these respiratory complications are due to infections i.e. pneumonias. It has been postulated that infections trigger a general inflammatory response which directly affects respiratory muscle strength and worsens respiratory function, which can cause respiratory failure.² All patients with a high spinal injury (> T1) or respiratory impairment have their vital capacity (VC) measured routinely at least once daily. We designed a project to assess if significant forced vital capacity (FVC) changes occur in spinal injury patients during an episode of sepsis.

Methods In this retrospective review we collected data from all our spinal injury patients with an episode of sepsis (pneumonia or urinary) between March 2010 and February 2013.

Results A total of 16 episodes were recorded in 14 patients (2 female, 12 male) with an average age of 61.8. Level of spinal cord injury varied from C4-T9 and the majority had ASIA (American Spinal Injury Association) grade A. Of all 16 episodes of sepsis, 6 (37.5%) were diagnosed as pneumonia. 10 (62.5%) were of urinary tract origin with positive urine culture. Blood cultures were positive in 4 cases, negative in 11 and not available in 1. FVC ranged from 4000 ml to 1200 ml. VC changes were more profound with respiratory infection as we observed an average FVC change of 1450 ml (50–77%) for the diagnosis of pneumonia and 862 ml (2.3–58%) for urinary tract infection.

Conclusions Systemic infection causes significant changes in vital capacity suggesting direct effect of the inflammatory process on diaphragmatic and respiratory muscle function. These VC changes are more profound with respiratory infection and in our study varied from 50%–77% reduction from the baseline. Reduction in VC is an important sign of clinical deterioration and should be routinely measured in any patient with spinal cord injury to prevent respiratory compromise and respiratory failure.

REFERENCES

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P159 **WEANING AND LONG TERM VENTILATION OUTCOMES IN SPINAL INJURY PATIENTS AFTER REFERRAL TO A REGIONAL SPINAL INJURY CENTRE**

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