Facts that predict failure in home management of an acute exacerbation of COPD

There is increasing interest in managing patients with non-severe acute exacerbation of chronic obstructive pulmonary disease (AECOPD) in the community. Hospital at Home and COPD Outreach programmes facilitate discharge of patients that would otherwise require hospital admission and have been shown to reduce hospital stay, readmission and healthcare costs without compromising patient care and satisfaction. Despite the human and health-related benefits associated with home services, undermining patients to seek medical attention. A common complication is not of itself an evidence of poor performance—more comforting. The absence of an uncommon complication in a personal or an institutional series will not itself help the clinician strike the difficult balance between providing too much and too little risk information.

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REFERENCES

Table 1 Univariate analyses of association between independent variables and readmission

<table>
<thead>
<tr>
<th>Variable</th>
<th>Day 14</th>
<th>Week 6</th>
<th>Month 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions in previous year</td>
<td>p=0.02</td>
<td>p=0.014</td>
<td>p=0.027</td>
</tr>
<tr>
<td>(OR 2.3, CI 1.1 to 4.7)</td>
<td>(OR 2.0, CI 1.2 to 3.5)</td>
<td>(OR 1.8, CI 1.0 to 3.0)</td>
<td></td>
</tr>
<tr>
<td>Long-term oxygen therapy</td>
<td>p=0.05</td>
<td>p=0.001</td>
<td>p=0.001</td>
</tr>
<tr>
<td>(OR 1.95, CI 0.9 to 3.8)</td>
<td>(OR 3.84, CI 2.2 to 6.7)</td>
<td>(OR 3.5, CI 1.9 to 6.3)</td>
<td></td>
</tr>
<tr>
<td>Portable oxygen</td>
<td>p=0.51</td>
<td>p=0.02</td>
<td>p=0.001</td>
</tr>
<tr>
<td>(OR 1.3, CI 0.6 to 2.9)</td>
<td>(OR 2.76, CI 1.5 to 5.1)</td>
<td>(OR 3.28, CI 1.7 to 6.3)</td>
<td></td>
</tr>
<tr>
<td>Home nebuliser</td>
<td>p=0.43</td>
<td>p=0.36</td>
<td>p=0.24</td>
</tr>
<tr>
<td>(OR 1.38, CI 0.6 to 3.1)</td>
<td>(OR 1.3, CI 0.7 to 2.1)</td>
<td>(OR 1.4, CI 0.8 to 2.7)</td>
<td></td>
</tr>
<tr>
<td>Oxygen saturation &lt;92% on room air</td>
<td>p=0.26</td>
<td>p=0.005</td>
<td>p=0.02</td>
</tr>
<tr>
<td>(OR 1.51, CI 0.7 to 3.3)</td>
<td>(OR 2.17, CI 1.4 to 3.3)</td>
<td>(OR 1.7, CI 1.2 to 2.4)</td>
<td></td>
</tr>
<tr>
<td>Pack-year history ≥50</td>
<td>p=0.78</td>
<td>p=0.03</td>
<td>p=0.01</td>
</tr>
<tr>
<td>(OR 1.07, CI 0.35 to 3.3)</td>
<td>(OR 3.25, CI 1.5 to 6.9)</td>
<td>(OR 2.86, CI 1.3 to 6.2)</td>
<td></td>
</tr>
<tr>
<td>Borg scale ≥3</td>
<td>p=0.026</td>
<td>p&lt;0.001</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>(OR 2.47, CI 1.2 to 5.1)</td>
<td>(OR 3.23, CI 1.7 to 6.0)</td>
<td>(OR 3.23, CI 1.7 to 6.1)</td>
<td></td>
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<tr>
<td>MMRC scale ≥3</td>
<td>p=0.02</td>
<td>p=0.001</td>
<td>p=0.001</td>
</tr>
<tr>
<td>(OR 2.56, CI 1.1 to 5.7)</td>
<td>(OR 3.23, CI 1.7 to 6.0)</td>
<td>(OR 3.23, CI 1.7 to 6.1)</td>
<td></td>
</tr>
<tr>
<td>(OR 2.0, CI 1.1 to 3.6)</td>
<td>(OR 2.0, CI 1.1 to 3.6)</td>
<td>(OR 2.0, CI 1.1 to 3.6)</td>
<td></td>
</tr>
<tr>
<td>Vaccination status</td>
<td>p=0.65</td>
<td>p=0.8</td>
<td>p=0.83</td>
</tr>
<tr>
<td>(pneumococcal and influenza)</td>
<td>(OR 1.2, CI 0.58 to 2.4)</td>
<td>(OR 0.89, CI 0.55 to 1.6)</td>
<td></td>
</tr>
</tbody>
</table>

Pack-year history, number of pack-years of cigarettes smoked per day × total number of years smoking; Borg scale refers to level of dyspnoea at enrolment; MMRC (modified Medical Research Council) scale ≥3 refers to level of dyspnoea at enrolment.
but efforts need to be made to reduce readmission rates. Further investigation needs to be carried out to identify if interventions can reduce rehospitalisation in the high risk patients identified by this study and what these interventions may be.

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REFERENCES

ARDS outcomes: a marker of critical care quality in the UK?

Finney and colleagues’ recent editorial discussed the results of the UK-based CESAR trial, which investigated extracorporeal membrane oxygenation (ECMO) in severe hypoxic respiratory failure. The editorialists concluded that this trial provided powerful support for the centralisation of care for severe acute respiratory failure (ARF) in a limited number of hospitals, with appropriate expertise and resources, including ECMO. Whilst this may be true, we suggest that CESAR also supports the contention that the provision of critical care services for the management of severe ARF in UK intensive care units requires further detailed auditing.

The CESAR trial’s pragmatic design gives an insight into the prevailing standards of care for patients with severe ARF. Although lung protective ventilation is a well established, uncontroversial practice, only 30% of the patients in the control group received this modality. It is of concern that 17 of 85 patients arriving alive at the ECMO centre improved with what would be generally recognised as a standard adult respiratory distress syndrome (ARDS) treatment protocol (tidal volume 4–8 ml/kg, plateau pressure <30 cm H2O, FiO2 titration to SaO2 >90%, diuresis to dry weight, packed cell volume of 40%, prone positioning and full nutrition). Significantly 14 (82%) of these individuals survived, suggesting that outcomes in severe ARF in the CESAR trial are a reflection of the quality of the critical care process that is delivered.

In this context it is not unreasonable to question why there is such a disparity in critical care provision within the UK. In Australia and New Zealand critical care medicine has been a speciality for >25 years with a faculty, fellowship and, more recently, a college. Consequently there is less variability in service provision and the delivery of care which is central to clinical governance. This may explain, in part, why outcomes for many aspects of critical care, including ARDS, are better in Australasian centres. Unfortunately the UK has fallen behind this model of service delivery and critical care has only been recognised as a speciality since 2002. In the first instance establishing a faculty of critical care medicine would go a long way towards redressing the balance.

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