In this study, we defined severe pneumonia as a score of 2 or more on the CURB-65 criteria (table 1). The CURB-65 criteria there were 125 non-severe cases (57.7%) and by CURB-age criteria there were 109 non-severe cases (57.7%).

### Table 1: Sensitivity, specificity, PPV and NPV for CURB-65 and CURB-age criteria in 189 patients with CAP

<table>
<thead>
<tr>
<th></th>
<th>CURB-65 estimate (95% CI)</th>
<th>CURB-age estimate (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>81.5% (61.9 to 93.7)</td>
<td>81.5% (61.9 to 93.7)</td>
</tr>
<tr>
<td>Specificity</td>
<td>64.2% (56.3 to 71.6)</td>
<td>74.1% (66.6 to 80.6)</td>
</tr>
<tr>
<td>PPV</td>
<td>27.5% (18.1 to 38.6)</td>
<td>34.4% (22.9 to 47.3)</td>
</tr>
<tr>
<td>NPV</td>
<td>95.4% (89.6 to 98.5)</td>
<td>96.0% (90.9 to 98.7)</td>
</tr>
</tbody>
</table>

PPV, positive predictive value; NPV, negative predictive value; CAP, community acquired pneumonia.

## References


## Birth weight and adult lung function

In a recent paper published in Thorax Canoy and co-workers’ concluded that babies with lower birth weight and poor infant growth may be at a higher risk of developing impaired adult pulmonary function. In contradiction to these findings, no association was found between birth weight and asthma symptoms in a Nordic-Baltic population studied by Laerum et al. Studies of birth characteristics and respiratory outcomes give contradictory results as methods used in different studies vary. Although Canoy et al. showed some interesting findings in a large cohort study, it raises some methodological questions and thereby interpretation of the findings.

The authors state that data on potential confounders and mediating factors operating throughout the life course were prospectively collected. Many of the known early life variables and adult variables were taken into consideration in logistic regression analyses. Canoy et al. have focused on the nutritional status of the mother and birth weight. However, I wonder whether some relevant factors known to influence weight during the first year of life were missing. For example, it is a known fact that children of diabetic mothers often have heavier babies (large for gestational age) at birth compared with other term babies. This has not been discussed in the paper. Furthermore, have the authors taken into account factors that could influence the development of weight during the first year? What about the nutritional status of the children or conditions that may lead to nutritional disorders during the first year? Did the authors consider other chronic childhood diseases that may impair growth? Only two measurements of weight (at birth and around 12 months of age) during the first year will hardly reflect the natural growth of the child over time.

The authors mention that weight gain during the first year was positively associated with lung function later in life, which remained significant after adjustments for

## Author’s reply

We agree with Myint and colleagues that CURB-65 will not perform equally in all cohorts of patients. We have previously shown, however, that knowledge among junior and middle grade medical staff about how to perform and apply severity assessment criteria in patients with community acquired pneumonia (CAP) is poor. This may have improved since the inclusion of CURB-65 in the British Thoracic Society (BTS) guidelines in 2004, but it is our anecdotal experience that severity assessment remains suboptimal. When implementing guidelines, there is a widely accepted paradigm that increasing complexity results in decreased adherence. While the modification proposed by Myint and colleagues may be a statistical improvement, the key question is: Will the improved performance characteristics outweigh the inevitable increased confusion and decreased use as a result of the increased complexity and yet another change to the recommended prognostic criteria for CAP?
various potential confounders across the life course. What about children with respiratory symptoms early in life? Studies have shown that there is an association between initial airway symptoms and later lung function and respiratory illnesses, and that subjects with asthma have persistent reduced lung function. Finally, did the authors account for family history of asthma and/or atopy or allergic sensitisation? In my opinion, many confounders and factors that may have an effect on the outcome were not addressed adequately in this paper, so the conclusions drawn may not be relevant.

Chandra Sekhar Devulapalli
Department of Paediatrics, Ringerike Hospital, NO-3504 Hamar, Norway; c.s.devulapalli@medisin.uio.no

Competing interests: None.

References

Impairment of the swallowing reflex in exacerbations of COPD

An exacerbation of chronic obstructive pulmonary disease (COPD) has a serious impact on disease progression and is associated with high medical costs, but the cause of about one-third of exacerbations cannot be identified. Adequate protective reflexes in the airways play an important role in the prevention of aspiration of bacteria-containing oropharyngeal or gastric secretions. Impairment of these reflexes, such as the swallowing reflex, therefore represents a potential risk factor for exacerbations of COPD. We have conducted a cross-sectional survey to evaluate the prevalence of impairment of the swallowing reflex in patients with COPD and to determine whether this is a risk factor for COPD exacerbations.

Fifty clinically stable patients with COPD were enrolled from the outpatient clinic of Ishinomaki Red Cross Hospital, Ishinomaki, Japan. Patients who were current smokers and those with oral corticosteroid use, oral and pharyngeal cancer, previous head and neck surgery, neuromuscular disease and oesophageal disease were excluded. Twenty-five patients (22 men and 3 women) had at least one exacerbation during the previous year, while the other 25 patients (21 men and 4 women) were stable. In the exacerbation group the patients had 2.4 (range 1–10) exacerbations per year, and 20 patients (80%) required hospital admission. There was no significant difference between the stable group and the exacerbation group in age (mean (SE) 75.0 (1.3) years vs 77.2 (1.0) years), forced expiratory volume in 1 s (FEV₁) (mean (SE) 1.11 (0.11) l vs 1.07 (0.09) l), percentage predicted value of FEV₁ (mean (SE) 47.1 (3.7%) vs 50.1 (3.7%) and the rate of home oxygen therapy (4% vs 20%). All patients were eating an entirely oral diet without complaining of dysphagia prior to enrolment.

We evaluated the swallowing reflex on the basis of the latency of response to the onset of the swallowing action timed from the injection of 1 ml distilled water into the pharynx through a nasal catheter. The mean (SE) latency of the swallowing reflex was significantly longer in the exacerbation group than in the stable group (8.6 (1.3) s vs 2.6 (0.3) s, p<0.001; fig 1). We classified a response as normal or impaired according to whether the swallowing reflex was induced within 3 s of the injection. In the exacerbation group 22 of 25 patients (88%) exhibited an impaired response compared with 8 of 25 patients (32%) in the stable group (p<0.001).

Impairment of the swallowing reflex was significantly associated with an exacerbation of COPD (relative risk 2.8, 95% confidence interval 1.5 to 5.0)

These results indicate that there is a high incidence of impairment of the swallowing reflex in patients with COPD and this is a risk factor for an exacerbation of COPD. To date, there are few published reports available on swallowing dysfunction in patients with COPD.

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Seiichi Kobayashi
Department of Respiratory Medicine, Ishinomaki Red Cross Hospital, Ishinomaki, Japan

Hiroshi Kubo
Department of Geriatrics and Respiratory Medicine, Tohoku University School of Medicine, Sendai, Japan

Figure 1 Comparison of latency time of the swallowing reflex in exacerbations of chronic obstructive pulmonary disease and those with stable disease.

References

Intravascular air and CT

Dr Ku and co-workers wrote an interesting article describing a patient with air emboli in the superior vena cava surrounding a central venous catheter (CVC) and bilateral pulmonary opacities recognised on contrast enhanced chest CT. The round pneumonia opacity was noted on chest radiograph soon after insertion of the CVC. From these findings, they suggest that this is a rare case of venous air pulmonary infarction mimicking round pneumonia. However, further evidence should be obtained to support this assumption.

CT is highly sensitive for the detection of small amounts of intravascular air, which can be found in the central veins in up to 23% of patients on contrast-enhanced CT and it rarely results in symptoms unless there is a right to left shunt. It is introduced during insertion of the venous catheter or more frequently accidental injection of air during intravenous injections (fig 1).

Normal lung tissue receives dual blood supply from pulmonary and bronchial arteries. Pulmonary infarct is infrequent after acute obstruction of the pulmonary artery because the bronchial circulation plays an important role

Figure 1 Air bubble trapped around the central venous catheter in the inferior vena cava (arrow) was incidentally noted on non-enhanced CT scan of the abdomen.
Birth weight and adult lung function

Chandra Sekhar Devulapalli

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