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Abstract (poster session)

Hyperglycaemia on admission does not predict mortality in patients hospitalised with community-acquired pneumonia: multicentre prospective cohort

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Objectives: The prediction of disease severity and mortality in community-acquired pneumonia (CAP) patients may benefit patient management. The C(U)RB-65 and PSI score are used widely to predict mortality, but may not be accurate in certain patient categories. Recently, it was suggested that hyperglycaemia (serum glucose of > 6 mmol/l) on admission independently predicts mortality in CAP patients (BMJ 2012 May 28;344). We determined the association between hyperglycaemia and mortality in 724 patients hospitalized with CAP (CAP-START study). Methods: CAP-START is an on-going multicentre study to evaluate three empiric antibiotic strategies for CAP in patients hospitalised, but not admitted to ICU. CAP is defined by clinical criteria and a new infiltrate on chest X-ray or CT. Patients with cystic fibrosis are excluded. The primary endpoint is all-cause mortality on day 90 after admission. Univariate Cox proportional hazards (Cox PH) models were fitted to the data to determine whether serum glucose on admission predicts mortality. Multivariate models adjusting for CURB-65 or PSI score (PSI, excluding glucose criterion) were also fitted. Results: Analysis was limited to the patients with a complete follow-up. Of the >1,600 patients included, 595 patients with CAP were eligible for this explorative analysis: 340 were male (57%), the median age was 68 years, median length of stay was 6 days, median PSI score was 93 points, and median CURB-65 score was 1 point. 16 patients (2,7%) were admitted to the ICU >24 hours after admission, 26 patients (4,4%) died while admitted and 63 patients (10,6%) died within 90 days from admission. There were 442 patients (74,3%) with hyperglycaemia (glucose > 6 mmol/l). Hyperglycaemia, categorised by glucose level, did not predict mortality in a Cox PH model (p=0,265; model1, see table), although confidence intervals were large for glucose levels > 11mmol/l. However, when we fitted models (model2 and model3) which adjusted for either the CURB-65 score or PSI score, the contribution of serum glucose was negligible based on either the Wald test or Akaike Information Criterion. Conclusions: In this explorative analysis of 595 patients hospitalized with CAP there was no statistically significant association between hyperglycaemia on admission and all-cause day-90 mortality, especially not after adjustment for CURB-65 or PSI score.