JOURNAL CLUB

Relationship between serum glucose and mortality post pneumonia

This multicentre prospective cohort study used data from the German collaborative network on community acquired pneumonia. It tested the hypothesis that admission serum glucose levels and pre-existing diabetes are associated with mortality in patients admitted to hospital with community acquired pneumonia.

Seven thousand four hundred patients were included in the registry. 6.8% were excluded due to vital data being missing. A further 12.6% had missing serum glucose levels which were accounted for by using multiple imputations. The primary endpoint was death at 90 days but death at 28 days and 180 days was also analysed. Hazard models were adjusted for gender, CURB-65 score, comorbidities, smoking and infectious agent.

Overall mortality was higher in patients with diabetes than without. Patients without pre-existing diabetes but with high serum glucose levels on admission had a higher 90 days mortality. Ninety days mortality increased in a stepwise manner as glucose concentration increased in patients without diabetes. This association of glucose level and mortality was not evident in patients with pre-existing diabetes. Low serum glucose levels (<4 mmol/l) were not associated with increased mortality.

This study did not establish a causal relationship between serum glucose levels on admission and mortality. Also, it was not designed to look at treatment of hyperglycaemia as there was no structured treatment protocol and therefore further studies are needed to determine if treating hyperglycaemia reduces mortality.

► Lepper PM, Ott S, Nüesch E, *et al.* Serum Glucose levels for predicting death in patients admitted to hospital for community acquired pneumonia: prospective cohort study. *BMJ* 2012;344:e3397. doi:10.1136/bmj.e3397

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