Elevated Glucose Levels Predict Mortality in Pneumonia Patients

Non-diabetic patients who have elevated serum glucose levels when they are admitted to the hospital presenting community-acquired pneumonia (CAP) have an increased risk of dying within 90 days compared with normoglycemic patients with the same illness, suggest studies presented at the European Respiratory Society (ERS) 2012 Annual Congress in Vienna, Austria, on 2 September.

High serum glucose levels predispose people to CAP by increasing the risk for aspiration, decreasing immunity, and causing impaired lung function, a Community Acquired Pneumonia Competence Network (CAPNETZ) study has found.

The study, headed by Dr. Philipp M. Lepper from the University Hospital of Saarland in Homburg, Germany, evaluated whether acute dysglycaemia could predict a poor outcome in patients with CAP who had not been diagnosed with diabetes.

"Increased serum glucose levels at admission is a risk factor for death among patients with community-acquired pneumonia. The risk for mortality starts to increase when serum glucose levels are slightly increased but remain below the defined threshold for overt diabetes," Dr. Lepper explained.

At the time of hospital admission, patients who had glucose levels from 6 to 11 mmol/l were considered to have mild acute hyperglycaemia and patients who had glucose levels of 14 mmol/l or more were considered to have acute hyperglycaemia. In all, 40% of CAP patients presented with hyperglycaemia. The majority (62%) of the patients were male, and average age was 60 years.

Patients with mild to moderate hyperglycaemia had a significantly higher HR for mortality at 90 days (1.55; 95% confidence interval: 1.18–2.04; P<.001) than patients with normal glucose levels at hospital admission. In patients presenting with acute hyperglycaemia, the HR increased to 6.04 (95% confidence interval: 4.18–8.74; P<.001). "CAPNETZ is the largest trial to look at hyperglycemia as an independent risk factor for increased risk of death from pneumonia," said Dr. Lepper.
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