

HbA_{1c} Levels Predict Sepsis Outcome in Diabetes

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Contributing Writer

Hemoglobin A_{1c} levels at hospital admission are predictive for hospital mortality and length of stay in diabetic patients with sepsis, reported Dr. Ivan Gornik of Rebro University Hospital in Zagreb, Croatia, and associates.

The investigators conducted a prospective, observational study of adults with type 2 diabetes admitted to a medical ward or medical intensive care unit because of sepsis. APACHE II and sequential organ failure assessment (SOFA) scores, plasma glucose levels, C-reactive protein (CRP), and leukocyte counts were determined upon hospital admission. HbA_{1c} levels were determined the following day.

The study was conducted from November 2003 to December 2005 and enrolled 286 adults, of which 121 (42%) were female. A total of 224 patients survived, with a median length of stay of 9 days (range 7-13). Of the 62 patients (22%) who died in the hospital, 32 (52%) were female.

Survivors were significantly younger than nonsurvivors were and had better

APACHE II and SOFA scores. Median ages of survivors and nonsurvivors were 61 years (range 38-72) and 66 years (range 48-76), respectively (Diab. Res. Clin. Pract. 2006 [Epub doi:10.1016/j.diabres.2006.10.017]).

Survivors had significantly lower HbA_{1c} values (median 8.2%) than did nonsurvivors (median 9.75%).

In multivariate logistic regression analysis, HbA_{1c} level was an independent predictor of hospital mortality, with an ad-

justed odds ratio of 1.358 for each increase of 1%. In the same analysis, female gender, APACHE II score, and SOFA score were also independent predictors of hospital mortality, whereas age, plasma glucose levels at admission, and CRP were not.

Receiver operating curves analysis showed HbA_{1c} levels in survivors to be significantly correlated with length of hospital stay. HbA_{1c} scores did not correlate with plasma glucose levels, CRP, leukocyte

count, age, APACHE II scores, or SOFA scores.

All patients with type 2 diabetes and sepsis should have strict glucose control, advised Dr. Gornik.

There is no additional treatment that can be offered to the subset of those patients with diabetes and sepsis who have high HbA_{1c} levels, but awareness of their condition might facilitate earlier detection and treatment of complications, he said. ■

Questionnaires Equal Lab Tests in Type 2 Screening

TORONTO — Questionnaires are as accurate as laboratory tests in screening patients for type 2 diabetes, Dr. Kara A. Nerenberg and her associates reported in a poster at the annual joint meeting of the Canadian Diabetes Association and the Canadian Society of Endocrinology and Metabolism.

"Diabetes screening questionnaires are simple, cheap alternatives to lab tests as initial screening tests," said Dr. Nerenberg and her associates of McMaster University, Hamilton, Ont.

A systematic review of data assessing the diagnostic performance of diabetes screening questionnaires yielded 10 studies of eight different questionnaires in 22 global populations with similar prevalences of type 2 diabetes. All of the questionnaires asked about age and obesity, while a majority also assessed hypertension, history of dysglycemia, activity/exercise, and diet.

Sensitivity of the questionnaires ranged from 0.67 (The Finnish DRS-Modified) to 0.82 (the Finnish DRS), and specificity from 0.58 (the Finnish DRS) to 0.74 (the Danish Risk Score). Both the Finnish and Danish scores performed consistently well in the different ethnic populations studied. Overall sensitivity of the questionnaires was 0.58, within the same range as the 0.40-0.60 with fasting plasma glucose and 0.69 for the oral glucose tolerance test.

The screening questionnaire could be filled out in the waiting room, which would allow the physician to discuss the results with the patient at the same visit, Dr. Nerenberg said in an interview.

—Miriam E. Tucker

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"How much did I dose at lunch?"

"When was my last dose?"

"Did I remember to take my Humalog?"



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