

Blood test uncovers undiagnosed diabetes in hospital patients with high blood sugar

May 23 2016

Table.
Comparison of Patients With and Without a History of Diabetes (N=348)^a

Characteristic or Outcome Measure	History of Diabetes		Total Sample	P Value
	Yes (n=298)	No (n=50)		
Age, y	60.2 (17.6)	59.2 (15.5)	60.1 (17.3)	.725
Sex, male, No. (%)	143 (48.0)	26 (52.0)	169 (48.6)	<.001
HbA _{1c} measured, No. (%)	216 (72.5)	31 (62.0)	247 (71.0)	<.001
HbA _{1c} , %	8.0 (3.1)	8.4 (3.2)	8.1 (3.1)	.508
No. of total home medications	11.4 (6.1)	8.8 (5.8)	11.0 (6.2)	.006
No. of diabetes medications	1.7 (0.9)	0.1 (0.3)	1.5 (1.0)	<.001
Blood glucose on admission	275.7 (182.3)	245.2 (212.7)	271.3 (187.0)	.287
Fasting blood glucose	177.5 (62.7)	185.3 (66.5)	178.6 (63.2)	.420
Random blood glucose	217.1 (67.3)	207.8 (74.0)	215.7 (68.2)	.375
Length of stay	2.6 (1.8)	4.2 (3.1)	2.8 (2.1)	<.001

^a Data presented as mean (SD) except where otherwise noted.

Abbreviations: HbA_{1c}, glycated hemoglobin; NA, not applicable.

Researchers from Touro University California and Ohio University Heritage College of Osteopathic Medicine reviewed the medical records of 348 patients with hyperglycemia inpatients discovered at admission in a rural community teaching hospital in the Midwest. Of those patients, 50 had no known history of diabetes and 31 of them were given an HbA1C test, which measures the average blood glucose level over the previous eight to 12 weeks. Among those tested, 77 percent had results consistent with diagnoses of diabetes (58 percent) or prediabetes (19 percent). Ultimately, more than half (55 percent) of patients with no previous history of diabetes received a discharge diagnosis that included

diabetes. Credit: *Journal of the American Osteopathic Association*

A retrospective review of medical records found the HbA1C test, commonly used to diagnose and manage diabetes, can effectively detect hidden disease among hospital patients with hyperglycemia, commonly known as high blood sugar.

Hyperglycemia is a frequent finding that can be related to physiologic stress, illness and medications, including steroids and vasopressors. Researchers from Touro University California and Ohio University Heritage College of Osteopathic Medicine reviewed the [medical records](#) of 348 [patients](#) with hyperglycemia inpatients discovered at admission in a rural community teaching hospital in the Midwest. Of those patients, 50 had no known history of diabetes and 31 of them were given an HbA1C test, which measures the average blood glucose level over the previous eight to 12 weeks.

Among those tested, 77 percent had results consistent with diagnoses of diabetes (58 percent) or prediabetes (19 percent). Ultimately, more than half (55 percent) of patients with no previous history of diabetes received a discharge diagnosis that included diabetes.

"In the hospital, we often find hyperglycemia when we're treating other illnesses, like sepsis or a heart attack. This study found that patients with no known history of diabetes whose HbA1C level was measured were five times more likely to leave the hospital with a diagnosis of new-onset diabetes," said Dr. Shubrook.

"That shows us we are missing opportunities to detect diabetes and initiate treatment for those patients to help manage that disease, which can reduce their long-term cost of care and disease burden," Dr.

Shubrook added. "From the osteopathic perspective of early detection equals better outcomes, it's easy to make a case for hospital protocols to trigger an HbA1C test when hyperglycemia is detected to distinguish between transient hyperglycemia and chronic disease."

Approximately one in five health care dollars is spent on [diabetes care](#), according to the American Diabetes Association, with the largest percentage of that cost related to inpatient care. Previous studies found that patients who receive a [diabetes](#) diagnosis and receive inpatient education have a lower all-cause 30-day hospital readmission rate.

Open access to the full review is available until August.

Provided by American Osteopathic Association

Citation: Blood test uncovers undiagnosed diabetes in hospital patients with high blood sugar (2016, May 23) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-05-blood-uncovers-undiagnosed-diabetes-hospital.html>

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