Endocrine Intervention Reduces Length of Stay

BY MIRIAM E. TUCKER

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS

BOSTON — Endocrine intervention resulted in a cost savings of more than $1 million among 820 hospitalized surgical patients with diabetes at an urban tertiary care hospital in Philadelphia.

Proactive consultation by an endocrinologist and a diabetes nurse-educator for surgical patients found to have abnormal glucose levels also reduced the average length of stay by nearly a day. "The bottom line is that endocrine intervention in surgical patients does pay, in terms of both cost savings to the hospital and quality of care for the patient," Dr. Arthur Chernoff said at the meeting.

VITALS

Major Finding: Length of stay averaged 5.0 days with endocrine intervention vs. 5.8 days without, while costs per stay dropped from $9,301 to $8,009.

Data Source: Observational study of 1-year time periods with and without endocrine intervention for hospitalized surgical patients at an urban tertiary care hospital.

Disclosures: Dr. Chernoff stated that he had no disclosures.

Adult patient data for admissions during July 2008–June 2009 (FY09) were compared with those of historical controls during July 2007–June 2008 (FY08). During the FY09 study period, endocrine intervention was triggered by a lab report of a blood glucose level above 199 mg/dL or below 50 mg/dL. Blood glucose management was individualized by the endocrinologist with the help of diabetes educators.

During the control period, the diabetic patients received care based on previously deployed protocols for the management of hyperglycemia in the ICU, hypoglycemia in all units, and insulin order sets.

In contrast to the control period, when an endocrinologist was typically called in only when there was a problem, "the key element of the intervention was to be proactive rather than reactive in the care of the diabetic patient," said Dr. Chernoff, chair of the division of endocrinology and medical director of the Gutman Diabetes Institute at Albert Einstein Medical Center, Philadelphia.

There were 820 patients with and 2,534 without diabetes in the FY09 period and 681 with and 2,516 without diabetes in FY08. The diabetes patients were older than those without (59 vs. 49 years in FY09 and 61 vs. 50 years in FY08), but race and sex did not differ between the two groups, Dr. Chernoff reported in a poster.

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"The key element of the intervention was to be proactive rather than reactive," Dr. Arthur Chernoff said.

Among the diabetic patients, length of stay was significantly lower during FY09, an average 5 days vs. 5.8 days in FY08. Time in the ICU also dropped, from 0.90 to 0.69 days. Among patients without diabetes, total length of stay did not differ significantly during the two time periods (4.1 in FY09 vs. 4.4 days in FY08), nor did time in the ICU (0.88 in FY09 vs. 0.87 in FY08).

Total expense for the hospital stay averaged $8,009 in FY09, a significant decrease from the average $9,301 in FY08. In contrast, hospital stay expense among those without diabetes improved only slightly, $7,440 in FY09 vs. $7,548 in FY08. Among all the hospitalized surgical patients, the total savings between the two time periods was 1,342 days and $1.15 million, of which half the days (656) and 92% of the cost ($1.06 million) were due to the improvements among those with diabetes, Dr. Chernoff noted.

Savings in length of stay and expense in the diabetic group were not due to a shifting of costs to other facilities or to increased mortality. The proportion discharged home from the hospital rose slightly, from 78% in FY08 to 79% in FY09, while deaths dropped from 1.8% to 1.6%.

In an interview, Dr. Chernoff said that the proactive nature of the intervention is the key to its success. "The idea is not waiting for trouble, but to be ahead of trouble and prevent all the rookie mistakes of those not familiar with diabetes. Some mistakes that we see over and over again can be avoided." ■

Delayed Elective Surgery Increased Postop Infection Rate

VITALS

Major Finding: The postsurgical infection rate for patients who had surgery on the day they were admitted was 5.7% in CABG patients vs. 18.2% in those who waited 6-10 days. The corresponding rates were 8.4% vs. 21.6% in lung resection patients, and 10.2% vs. 20.6% in colon resection patients.

Data Source: Retrospective study of 163,000 elective-surgery patients from the Nationwide Inpatient Sample during 2003-2007.

Disclosures: Dr. Vogel reported no disclosures.

BY MITCHEL L. ZOLER

FROM THE ANNUAL MEETING OF THE SURGICAL INFECTION SOCIETY

LAS VEGAS — The longer elective-surgery patients were hospitalized before their operation, the greater their risk of developing an infection postoperatively, according to a review of 163,000 patients.

Elective-admission patients hospitalized for just 1 day before their surgery had a significant 20%-50% increased risk of subsequent infection, compared with patients whose surgery took place the same day as their hospital admission, Dr. Todd R. Vogel reported.

Patients hospitalized for 6-10 days before surgery had a greater than twofold increased risk, said Dr. Vogel, a vascular surgeon at the Robert Wood Johnson Medical School, New Brunswick, N.J.

The data suggest it would be better to send patients home to await the day of their planned surgery than to keep them in the hospital until their slot on the schedule opens, he added.

Another possible explanation is that many of the delayed cases weren't really elective. "I think there were reasons for the delay that you can't pick out of your administrative database," said Dr. E. Patchen Dellinger, professor and chief of the division of general surgery at the University of Washington, Seattle.

But Dr. Vogel pointed out that hospitals would want to "upcode" cases that were not elective because they would be paid more.

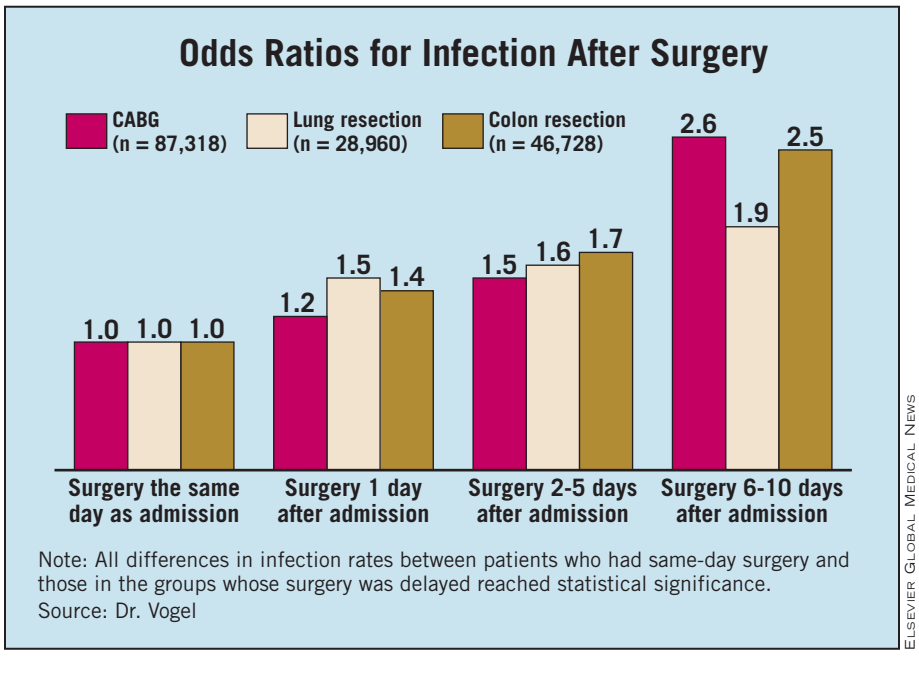
He and his associates used data collected during 2003-2007 in the Nationwide Inpatient Sample on elective admissions for three types of surgery: 87,318 for CABG, 46,728 for colon resection, and 28,960 for lung resection. Patients were aged 50-79 years. Nearly two-thirds were men, and 84% were white. The infectious complications analyzed included pneumonia, urinary tract infection, sepsis, and surgical site infections.

Patients undergoing CABG had the highest rate of delays between admission and surgery, with 53% having their surgery on the same day of admission, compared with 79% of colon resection patients and 94% of lung resection patients. Another 23% of the CABG patients had a 1-day delay, 21% had a 2-5 day delay, and 3% had their surgery 6-10 days after admission. In the colon resection group, 13% had a 1-day delay, 7% waited 2-5 days, and 2% waited 6-10 days. Among those having lung resection, 3% waited 1 day, 2% waited 2-5 days, and 1% waited 6-10 days.

The postsurgical infection rate for patients who had surgery on the day they were admitted was 5.7% in the CABG patients, 8.4% in the lung resection patients, and 10.2% in the colon resection patients. The rates increased for each incremental delay. Among patients whose surgery was performed 6-10 days after admission, postsurgical infection rates were 18.2% for CABG, 21.6% for lung resection, and 20.6% for colon resection.

Adjusted multivariate analysis showed that all delay durations led to significantly greater infection rates relative to no delay, for all three operations analyzed. (See box.)

Analysis further documented that in-hospital delays before surgery were linked to higher hospital costs, Dr. Vogel said. ■



Note: All differences in infection rates between patients who had same-day surgery and those in the groups whose surgery was delayed reached statistical significance.
Source: Dr. Vogel

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