Postop Death Rate No Higher in Obese Ca Patients

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — Obesity was not a risk factor for postoperative mortality or major complications in patients undergoing major intra-abdominal cancer surgery, according to data from a prospective, multicenter risk-adjusted cohort study of 2,258 patients.

As observed in previous studies, however, obesity was a risk factor for minor complications, primarily wound infections.

Importantly, patients who were underweight had a fivefold increased risk of postoperative death, perhaps as a consequence of their underlying poor nutritional status or impaired immunity, investigator Dr. John T. Mullen reported at a symposium sponsored by the Society of Surgical Oncology.

"The prejudice that overweight and obese patients are at increased risk for serious adverse outcomes after major cancer surgery is not justified," he said. "Paradoxically, overweight status and mild obesity status may be protective of low mortality."

This possible "obesity paradox" warrants further study, whereas underweight patients might benefit from perioperative nutritional supplementation to mitigate their increased risk of mortality, Dr. Mullen, a surgical oncologist at Beth Israel Deaconess Medical Center, Boston, and his associates concluded.

Underweight patients in the study were significantly more likely to have lost more than 10% of their body weight in the 6 months prior to surgery and to have a lower mean preoperative serum albumin level than other patients have.

Using National Institutes of Health–defined body mass index (BMI) classes, 55 patients were stratified as underweight (BMI up to 18.5 kg/m^2), 819 as normal (BMI 18.6-25), 811 as overweight (BMI 25.1-30), 357 as obese I (BMI 30.1-35), 137 as obese II (BMI 35.1-40), and 79 as obese III (BMI above 40).

Patients underwent the following surgeries from October 2001 to September 2004 at hospitals participating in the Patient Safety in Surgery Study of the National Surgical Quality Improvement Program: 29 esophagectomy, 223 gastrectomy, 554 hepatectomy, 699 pancreatectomy, and 753 low anterior resection/proctectomy.

The risk of postoperative death was greatest at the extremes of BMI class, with a 30-day mortality rate of 9% among underweight patients, 2% among normal weight, 2.1% among overweight, 0.84% among obese I, 0.73% among obese II, and 3.8% among obese III, Dr. Mullen said.

In a multivariate analysis that examined 97 variables, the risk of postoperative death was significantly higher for underweight patients, with an odds ratio of 5.24, compared with patients stratified as normal (OR 1.00), overweight (OR 1.06), obese I (OR 0.61), obese II (OR 0.45), and obese III (OR 1.67).

The 30-day morbidity rate was 22% (OR 0.94), 23% (OR 1.00), 26% (OR 1.22), 29% (OR 1.42), 30% (OR 1.42), and 33% (OR 1.50), respectively, Dr. Mullen said.

There was a progressive and significant increase in minor complications, which included only urinary tract and wound infections, with increasing BMI class: underweight 9%, normal weight 13%, overweight 14%, obese I 17%, obese II 18%, and obese III 25%, said Dr. Mullen, who received no funding for the study and reported no conflicts of interest.

There were no differences among the BMI classes in total operative time or number of patients returning to the operating room.

Obesity has long been considered a potential risk factor for poor surgical outcomes, yet the published data are conflicting, Dr. Mullen said. The few studies that have examined outcomes after major cancer surgery have shown only an increased incidence of intra-abdominal and superficial wound infections. They were limited, however, by small numbers, retrospective design, limited patient follow-up, heterogeneity, and types of procedures studied, he said. ■

MELD Score Successfully Gauges Risk of Poor Surgical Outcomes

BY MITCHEL L. ZOLER
Philadelphia Bureau

BOSTON — A well-established risk-scoring system is turning out to have helpful new uses for gauging the preoperative risk associated with a variety of procedures.

The Model for End-Stage Liver Disease (MELD) score was first devised to assess progression in patients with cirrhotic liver disease. But the MELD score can also be used to integrate noninvasively collected data on a patient's hepatic, renal, and coagulopathy states, making it well suited to quickly assess a patient's risk for multisystem organ dysfunction and other adverse surgical outcomes.

When applied retrospectively in 211 patients receiving a left ventricular assist device (LVAD) at one center, a modified MELD score predicted the risk for death, renal failure, and right ventricular failure following surgery, as well as patients' perioperative and postoperative need for blood products and their hospital length of stay, Dr. Jennifer C. Matthews reported at the annual meeting of the International Society for Heart and Lung Transplantation.

In other recent studies, the MELD score has been used successfully to predict the risk for adverse outcomes in patients undergoing abdominal surgery and certain cardiac procedures such as coronary bypass and valve repair or replacement, said Dr. Matthews, a cardiologist at the University of Michigan, Ann Arbor.

"I stole the score and applied it to a different population and different organ systems," she said.

MELD scores are determined by plugging patients' serum creatinine and bilirubin levels and their international normalized ratios (INRs) into a formula that's available on the Internet. In her study, Dr. Matthews used values obtained within 24 hours before LVAD placement surgery. She used a version of the MELD score formula that has been modified by the United Network for Organ Sharing.

Her study used data collected on all 211 patients who received an LVAD at the University of Michigan during October 1996–February 2007. Their average age was 50, their average serum values were a creatinine of 1.5 mg/dL and a bilirubin of 1.8 mg/dL, and their average INR was 1.2. Their average MELD score was 13.7. Perioperative deaths occurred in 29 patients.

A multivariate analysis showed that each 1-point rise in patients' MELD scores boosted their risk of operative death by 20%. A MELD score of 17 or greater was seen in the sickest quartile of patients. Patients in this subgroup had a threefold increased risk of death, and about a fivefold increased risk for both renal failure and right ventricular failure, compared with patients whose MELD scores were less than 17.

A multivariate analysis showed that each 1-point rise in patients' MELD scores increased their ICU stay and boosted their risk of operative death by 20%.

Each 1-point rise in MELD score was linked with about a half-day longer ICU stay. Higher MELD scores were also linked with a greater need for blood products (including use of red cells, platelets, plasma, or cryoprecipitate) during or within 24 hours following surgery.

In addition to emerging as an effective prognostic tool, the MELD score can guide physicians to take preoperative measures that might improve a patient's score, such as optimizing right ventricular filling pressure, correcting coagulopathy by improved nutrition or vitamin K supplementation, and using mechanical circulatory support early on.

Dr. Matthews cautioned that it's premature to use MELD scoring to assess patients scheduled to receive an LVAD, because she has not yet shown that improving patients' scores preoperatively will yield better outcomes. She has a project underway to further validate the score's prognostic ability in another set of LVAD recipients, she said in an interview. ■

Capsaicin May Reduce Acute Postsurgical Pain

BY SHERRY BOSCHERT
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SAN FRANCISCO — Instilling purified capsaicin into a surgical wound after open mesh groin hernia repair and before wound closure reduced postoperative pain scores, compared with placebo, for 3 days after surgery, according to a randomized, double-blind, placebo-controlled study of 41 men.

There was no significant difference between groups, however, in the primary end point: average daily pain scores during the first week after surgery, Dr. Eske K. Aasvang reported in a poster presentation at the annual meeting of the American Society of Anesthesiologists.

Average pain scores, as assessed on a 100-point visual analog scale, were less than 15 after postoperative day 4 in both groups—too low to show a treatment difference in the second half of the week, suggested Dr. Aasvang of the University of Copenhagen and his associates.

Dr. Aasvang received a salary from the maker of the capsaicin formulation, Anesiva Inc., which also funded the study.

Patients received a single intraoperative instillation of 15 mL of medication containing either placebo or 1,000 mcg of Adlea, a formulation consisting of more than 98% capsaicin. All patients also were given acetaminophen and ibuprofen for postoperative analgesia and were allowed to take tramadol if needed.

The morning after surgery, median pain scores on the visual analog scale were approximately 13 in the capsaicin group and 33 in the placebo group. Median pain scores in the capsaicin group and the placebo group on the second morning after surgery were approximately 15 and 25, respectively, and on the third morning were approximately 7 and 17, respectively.

Four patients in the capsaicin group and none in the placebo group developed treatment-related adverse events, including increased blood pressure (two patients), decreased heart rate (one), and abnormal skin odor (one). Dr. Aasvang described the capsaicin formulation as "generally well tolerated" in this study.

All patients except one in the placebo group had normal wound healing in the week after surgery. One patient in the placebo group had surgical wound drainage, a serious adverse event that was thought to be unrelated to the study treatment.

The study results suggest that purified capsaicin may have a role to play in reducing acute postoperative pain, the investigators concluded. ■