Frailty Markers Predicted Post-Op Mortality

By Sherry Boschert

Indian Wells, Calif. — Elderly patients with at least four of six markers of frailty before elective major surgery were significantly more likely to die within 6 months after surgery, a prospective study of 110 subjects showed.

More than half of all operations in the United States are performed on patients older than 65 years. Including six frailty markers in geriatric preoperative assessments can help predict postoperative mortality and the probability of a patient needing transfer into institutional care after discharge, said Dr. Thomas N. Robinson and associates reported at the annual meeting of the American Surgical Association.

Recognition of frailty markers in a preoperative assessment of geriatric patients represents a paradigm shift from the traditional preoperative evaluation techniques, which typically stratify risk based on a single organ system assessment, said Dr. Robinson of the University of Colorado, Denver.

Dr. Michael E. Zenilman, also commented favorably on the frailty markers. "We used to only look at comorbidities, urgency of procedure, and cardiac risk stratification to determine risk. Only recently have we recognized that frailty, disability, and alterations in serum markers like albumin and hematocrit can affect the outcome," said Dr. Zenilman, professor and chair of surgery at the State University of New York Downstate Medical Center, Brooklyn, N.Y.

The investigators chose 12 of more than 70 frailty markers that have been described in the literature to include in assessments within 30 days before elective major surgery at the Denver Veterans Affairs Medical Center. The patients, who underwent general, thoracic, vascular, or urologic surgery, had an average age of 74 years, and 95% were men.

The assessments covered age, cognition as measured by the Mini-Cog Test, the number of falls in the prior 6 months, body mass index, and laboratory tests. The investigators also used three assessments of undernutrition: weight loss of 10 pounds or more in the prior 6 months, body mass index, and albumin level. They stratified patients into three categories: those who were at low risk for mortality, those who were at moderate risk, and those who were at high risk.

The investigators chose the 12 frailty markers because they could be marked on a dashboard sheet by a nurse taking vital signs. A surgeon looking at the dashboard sheet during a visit would then be able to "risk stratify the patient in an improved fashion," Dr. Robinson said.

All patients survived surgery and postoperative care in the ICU. A total of 15% of patients died within 6 months of undergoing surgery, and 26% required institutionalization in nursing homes or other care institutions upon discharge, Dr. Robinson reported.

The six preoperative frailty markers that were significantly associated with a higher risk of 6-month mortality were:

2. Lower albumin level.
3. Increased falls.
4. Lower hematocrit.
5. Higher Katz disability score.

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The same six factors were associated with discharge to institutional care.

Dr. Robinson and associates stated that they have no conflicts of interest.

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