



## CANCER

### When the cancer patient is elderly, how do you weigh the risks of surgery?



**» Marguerite Palisoul, MD**

Dr. Palisoul is Fellow in the Department of Obstetrics and Gynecology, Division of Gynecologic Oncology, at Washington University School of Medicine in St. Louis, Missouri.



**» David G. Mutch, MD**

Dr. Mutch is Ira C. and Judith Gall Professor of Obstetrics and Gynecology and Vice Chair of Gynecology, Division of Gynecologic Oncology, at Washington University School of Medicine in St. Louis, Missouri. He serves on the OBG MANAGEMENT Board of Editors

*The authors report no financial relationships relevant to this article.*

**IN THIS ARTICLE**

**Preoperative risk-assessment strategies**

page 16

**The 11-item modified Functional Index**

page 16

**Using the Functional Index in practice**

page 17

As the proportion of the elderly in the US population continues to increase, with life expectancy trending upward, we can expect to see more gynecologic cancers in our patients.<sup>1,2</sup> At present, the most effective approach to these cancers commonly includes aggressive surgical resection with chemotherapy and, in some cases, radiation. It remains unclear whether elderly patients should be managed the same as younger patients, with minimal data to guide physicians. Some evidence suggests an increased risk of surgical complications in older adults.<sup>3</sup>

To optimize surgical care in our elderly patients, we need to understand the risks of perioperative mortality and morbidity in this population. For example, the current standard of care for advanced epithelial ovarian cancer is aggressive cytoreductive surgery followed by adjuvant chemotherapy,<sup>4</sup> although neoadjuvant chemotherapy is gaining utility and popularity in certain circumstances. During pretreatment counseling, it is imperative that we communicate patient-

specific outcomes so that patients and their families can make educated decisions in line with their goals. What should we know about age-dependent outcomes when counseling our patients?

To optimize surgical care in this population, we also need to develop and use new methods of surgical decision making. Although some data suggest that age is an independent risk factor for postoperative complications, not all elderly patients are the same in terms of comorbidities and functional status. In order to truly assess risks, we need to identify additional preoperative risk factors. Are there accurate scoring tools or predictors of outcomes available to help us assess the risks of postoperative mortality and morbidity?

In this article, we highlight recent developments in surgical treatment of the elderly, focusing on:

- postoperative mortality and morbidity in patients older than 80 years
- adjuncts to preoperative assessment for oncogeriatric surgical patients.

# Risks rise sharply in older patients undergoing treatment for ovarian Ca

Moore KN, Reid MS, Fong DN, et al. Ovarian cancer in the octogenarian: does the paradigm of aggressive cytoreductive surgery and chemotherapy still apply? *Gynecol Oncol.* 2008;110(2):133-139.

Mahdi H, Wiechert A, Lockhart D, Rose PG. Impact of age on 30-day mortality and morbidity in patients undergoing surgery for ovarian cancer. *Int J Gynecol Cancer.* 2015;25(7):1216-1223.

The cornerstone of optimal survival from certain gynecologic cancers, such as advanced ovarian cancer, is aggressive debulking surgery. However, older adults are classically under-represented in clinical trials that guide this standard of care.

To determine whether patients aged 80 years or older respond differently from younger patients to conventional ovarian cancer management, Moore and colleagues retrospectively reviewed their institutional experience. They found that postoperative mortality increased from 5.4% in patients aged 80 to 84 years to 9.1% in those aged 85 to 89 and 14.4% in those older than 90. The rates for younger patients were 0.6% for patients younger than 60 years, 2.8% for those aged 60 to 69 years, and 2.5% for those aged 70 to 79 years ( $P<.001$ ).

Notably, 13% of patients aged 80 years or older who underwent primary surgery died during their primary hospitalization. Of those who survived, 50% were discharged to skilled nursing facilities. Of patients who underwent cytoreductive surgery, 13% were unable to undergo any intended adjuvant

therapy, and only 57% completed more than 3 cycles of chemotherapy, either due to demise or toxicities. Two-month survival for patients 80 years or older was comparable between patients who underwent primary surgery and those who had primary chemotherapy (20% and 26%, respectively).

With a similar objective, Mahdi and colleagues identified 2,087 patients with ovarian cancer who underwent surgery. After adjusting for confounders with multivariable analyses, they found that octogenarians whose initial management was surgery were 9 times more likely than younger patients to die and 70% more likely to develop complications within 30 days. Among patients who underwent neoadjuvant chemotherapy, there were no significant differences between older and younger patients in 30-day postoperative mortality or morbidity.

## WHAT THIS EVIDENCE MEANS FOR PRACTICE

These data reinforce the care warranted when counseling older adult patients with gynecologic cancer about their initial management options. Some patients and their families may be willing to accept different risks for postoperative morbidity and mortality, whereas others may not. We need randomized data comparing outcomes of primary cytoreductive surgery with neoadjuvant chemotherapy in this age group. Nevertheless, it seems clear that the older patient cannot be treated the same as the younger patient.



**Octogenarians with ovarian Ca whose initial management was surgery were 9 times more likely to die than younger patients**

CONTINUED ON PAGE 16

» Watch for the **Update on Pelvic Floor Dysfunction** next month

Cindy L. Amundsen, MD, and Megan Bradley, MD



# When evaluating elderly patients for surgery, the use of multiple risk-assessment strategies may improve accuracy

*Huisman MG, Audisio RA, Ugolini G, et al. Screening for predictors of adverse outcome in onco-geriatric surgical patients: a multicenter prospective cohort study. Eur J Surg Oncol. 2015;41(7):844-851.*

*Uppal S, Igwe E, Rice L, Spencer R, Rose SL. Frailty index predicts severe complications in gynecologic oncology patients. Gynecol Oncol. 2015;137(1):98-101.*

The National Comprehensive Cancer Network recommends that clinicians determine baseline life expectancy for older adults with cancer to aid in management decision making. The use of tools such as [www.epronosis.com](http://www.epronosis.com), developed to determine anticipated life expectancy independent of cancer, can prove useful in determining a patient's risk of dying or suffering from their cancer before dying of another cause.<sup>5</sup>

When it comes to the determination of risk related to a patient's cancer diagnosis and selection of potential management options, many argue that the subgroup of elderly patients is not homogenous and that the use of age alone to guide management decisions may be unfair. Preoperative evaluation ideally should incorporate a global assessment of predictive risk factors.

### Three assessment tools are especially useful

Huisman and colleagues set out to identify accurate preoperative assessment methods in elderly patients undergoing oncologic surgery. They prospectively recruited 328 patients aged 70 years or older and evaluated patients preoperatively using 11 well-known geriatric screening tools. They compared these evaluations with outcomes to determine which

tools best predict the occurrence of major postoperative complications. They found the strongest correlation with outcomes when combining gender and type of surgery with the following 3 assessment tools:

- **Timed Up and Go (TUG)**—a walking test to measure functional status
- **American Society of Anesthesiologists scale**—a scoring system that quantifies preoperative physical status and estimates anesthetic risk
- **Nutritional Risk Screening**—an assessment of nutritional risk based on recent weight loss, overall condition, and reduction of food intake.

All 3 are simple and short screening tools. When used together, they can provide clinicians with accurate risk estimations.

### The 11-item modified Functional Index<sup>6</sup>

**Calculate the score by assigning 1 point to every variable present. A score of 4 or higher is indicative of high risk.**

- COPD or recent pneumonia
- Congestive heart failure
- Myocardial infarction
- PCI, prior cardiac surgery, or angina
- Diabetes mellitus
- Hypertension requiring medication
- Peripheral vascular disease or ischemic rest pain
- Impaired sensorium
- Transient ischemic attack or cerebrovascular accident
- Cerebrovascular accident with neurologic deficit
- Functional status 2\*

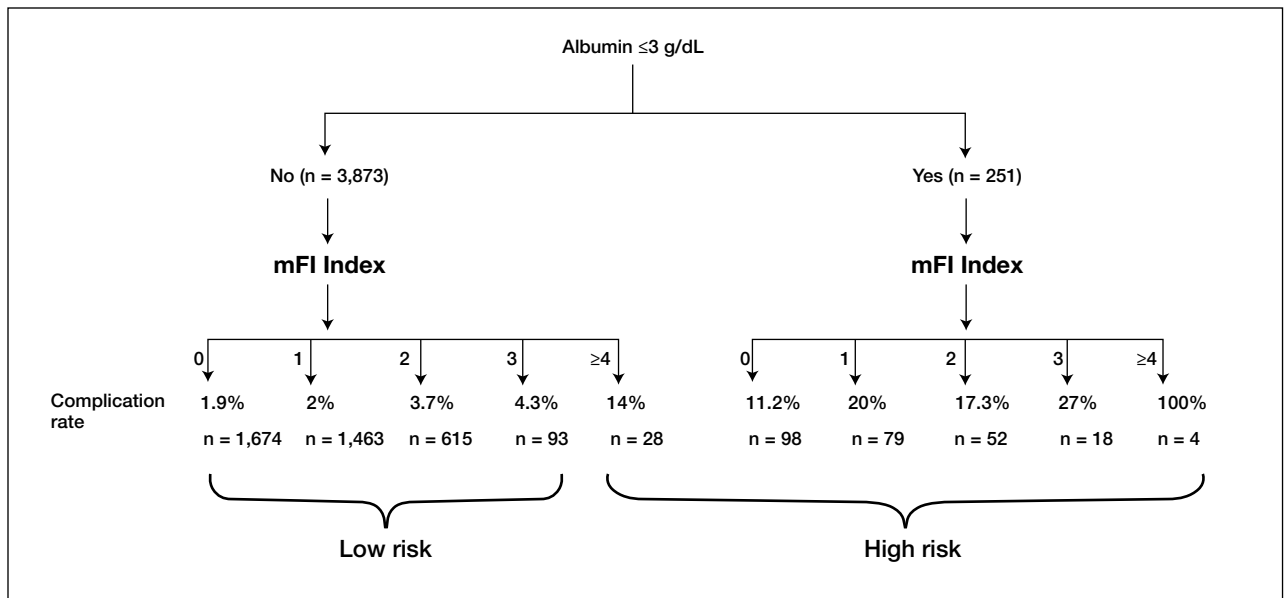
Abbreviations: COPD, chronic obstructive pulmonary disease; PCI, percutaneous coronary intervention.

\*Measured in the 30 days prior to surgery.



**Preoperative evaluation of elderly patients ideally should incorporate a global assessment of predictive risk factors**

## Postoperative risk stratification based on preoperative albumin level and modified Functional Index<sup>6</sup>



The findings of Huisman and colleagues reinforce the importance of a global assessment of the patient's comorbidities, functional status, and nutritional status when determining candidacy for oncologic surgery.

### Functional index predicts need for postoperative ICU care and risk of death

Uppal and colleagues set out to quantify the predictive value of the modified Functional Index (mFI) in assessing the need for postoperative critical care support and/or the risk of death within 30 days after gynecologic cancer surgery. The mFI can be calculated by adding 1 point for each variable listed in the **TABLE**, with a score of 4 or higher representing a high-frailty cohort.

Of 6,551 patients who underwent gynecologic surgery, 188 were admitted to the intensive care unit (ICU) or died within 30 days after surgery. The mFI was calculated, with multivariate analyses of additional variables. An mFI score of 3 or higher was predictive of the need for critical care support and the risk of 30-day mortality and was associated with a significantly higher number of complications ( $P < .001$ ).

Predictors significant for postoperative critical care support or death were:

- preoperative albumin level less than 3 g/dL (odds ratio [OR] = 6.5)
- operative time (OR = 1.003 per minute of increase)
- nonlaparoscopic surgery (OR = 3.3)
- mFI score, with a score of 0 serving as the reference (OR for a score of 1 = 1.26; score of 2 = 1.9; score of 3 = 2.33; and score of 4 or higher = 12.5).

When they combined the mFI and albumin scores—both readily available in the preoperative setting—Uppal and colleagues were able to develop an algorithm to determine patients who were at “low risk” versus “high risk” for ICU admission and/or death postoperatively (**FIGURE**).



**A modified Functional Index score of 3 or higher was predictive of the need for critical care support and the risk of 30-day mortality**

### WHAT THIS EVIDENCE MEANS FOR PRACTICE

Besides conducting a baseline life-expectancy assessment, providers should incorporate multidimensional methods of risk assessment for elderly patients for a more accurate estimation of surgery tolerance.

CONTINUED ON **PAGE 44**

This space has purposely been left blank.



## UPDATE

CONTINUED FROM PAGE 17

### Bottom line

Older patients are more commonly affected by multiple medical comorbidities, as well as functional, cognitive, and nutritional deficiencies, which contribute to their increased risk of morbidity and mortality after surgery. The elderly experience greater morbidity with noncardiac surgery in general.

Clearly, the decision to operate on an elderly patient should be approached with caution, and a critical assessment of the patient's risk factors should be performed to inform counseling about the patient's management options. Future randomized prospective data will help us better understand the relationship between age and surgical outcomes. 🚫

### References

1. US Census Bureau. Population Projections: Projections of the Population by Sex and Selected Age Groups for the United States: 2015 to 2060. <https://www.census.gov/population/projections/data/national/2014/summarytables.html>. Published December 2014. Accessed August 31, 2015.
2. US Census Bureau. Population Projections: Percent Distribution of the Projected Population by Sex and Selected Age Groups for the United States: 2015 to 2060. <https://www.census.gov/population/projections/data/national/2014/summarytables.html>. Published December 2014. Accessed August 31, 2015.
3. Polanczyk CA, Marcantonio E, Goldman L, et al. Impact of age on perioperative complications and length of stay in patients undergoing noncardiac surgery. *Ann Intern Med*. 2001;134(8):637-643.
4. Aletti G, Dowdy SC, Gostout BS, et al. Aggressive surgical effort and improved survival in advanced stage ovarian cancer. *Obstet Gynecol*. 2006;107(1):77-85.
5. National Comprehensive Cancer Network. NCCN Guidelines for Age-Related Recommendations: Older Adult Oncology. [http://www.nccn.org/professionals/physician\\_gls/f\\_guidelines.asp#age](http://www.nccn.org/professionals/physician_gls/f_guidelines.asp#age). Published 2015. Accessed August 31, 2015.
6. Uppal S, Igwe E, Rice L, Spencer R, Rose SL. Frailty index predicts severe complications in gynecologic oncology patients. *Gynecol Oncol*. 2015;137(1):98-101.