Paris, 4th November 2011

Surgical Updates

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University of Liverpool - UK
treatment goals for older patients

Maximize/maintain potential life span

Maintain dignity of life, maximize self-esteem

Maximize independent function, minimize dependence

Relieve suffering (pain)

When cure is not possible, palliation/comfort are just as important
Operative Outcomes Beyond 30-day Mortality

Colorectal Cancer Surgery in Oldest Old

Waddah B. Al-Refaie, MD,* Helen M. Parsons, MPH,* Elizabeth B. Habermann, MPH, PhD,*
Mary Kwaan, MD, MPH,* Michael P. Spencer, MD, FACS,* William G. Henderson, MPH, PhD,† and
David A. Rothenberger, MD, FACS*

Background: Resections for elderly colorectal cancer (CRC) are forecasted to grow, particularly in those beyond the age limit of screening (>80 years). However, literature on operative outcomes after CRC procedures in the oldest old is focused primarily on operative mortality. We hypothesize that older age will additionally impact operative morbidity after CRC resections in a multihospital, risk-adjusted database.

Study Design: We identified 19,375 patients >40 years who underwent CRC procedures in the 2005 to 2008 American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database. Pre-, intra-, and postoperative factors were compared by age groups. Multivariable techniques were used to assess the effects of older age on operative outcome measures, adjusting for covariates.

Results: Over 20% of our cohort was older than 80 years. Of those, 17% developed major complications and 29% experienced prolonged length of stay (LOS). Older patients also experienced higher rates of 30-day operative mortality (>80 years vs. 45–55 years; 6% vs. <1%), major complications (>80 years vs. 45–55 years; 21% vs. 14%), and prolonged LOS after open (>80 years vs. 45–55 years; 37% vs. 24%) and laparoscopic procedures (>80 years vs. 45–55 years; 40.5% vs. 18%). These unadjusted comparisons persisted in multivariable analyses demonstrating that older age independently predicted worse operative outcomes after CRC procedures.

Conclusions: The effects of older age extend to other important outcome patients with CRC is arguably limited. First, despite their projected growth, outcomes for those beyond the age limit of screening (>80 years) remain sparse (less than 10% of study populations). Second, most studies focus primarily on operative mortality as a benchmark for operative outcomes after CRC procedures. However, operative mortality remains relatively low across all CRC procedures whereas major operative complications are significantly higher (up to 28% of patients). For example, colectomy has accounted for the greatest share of complications (24%) in the overall complication profile at the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) hospitals, thus highlighting its importance as a potentially underappreciated parameter of surgical outcomes. Finally, there are no clear indications in the literature on comorbidities and functional capacity in this growing elderly population. As such, the availability of meaningful risk-based information for older patients and their surgeons when evaluating treatment options for CRC is limited.

Because of these growth projections in older US populations along with limitations in data on operative outcomes after CRC operations especially those older than 80 years, we postulate that increasing age continues to be independently associated with short-term operative outcomes. In our study, we used ACS NSQIP to assess the
Resection Benefits Older Adults with Locoregional Pancreatic Cancer Despite Greater Short-Term Morbidity and Mortality

Taylor S. Riall, MD, PhD,* Kristin M. Sheffield, PhD,* Yong-Fang Kuo, PhD,† Courtney M. Townsend, Jr., MD,* and James S. Goodwin, MD‡

OBJECTIVES: To evaluate time trends in surgical resection rates and operative mortality in older adults diagnosed with locoregional pancreatic cancer and to determine the effect of age on surgical resection rates and 2-year survival after surgical resection.

DESIGN: Retrospective cohort study using data from the Surveillance, Epidemiology, and End Results (SEER) and linked Medicare claims database (1992–2005).

SETTING: Secondary data analysis of population-based tumor registry and linked claims data.

PARTICIPANTS: Medicare beneficiaries aged 66 and older diagnosed with locoregional pancreatic cancer (N = 9,553), followed from date of diagnosis to time of death or censorship.

MEASUREMENTS: Percentage of participants undergoing surgical resection, 30-day operative mortality after resection, and 2-year survival according to age group.

key words: age; pancreatic resection; short-term outcomes

Pancreatic cancer is the fourth leading cause of cancer deaths in men and women in the United States. The overall annual incidence of pancreatic cancer is approximately 11 cases per 100,000 people, and it increases sharply with age. People aged 20 to 29 have an annual incidence of 0.1 cases of pancreatic cancer per 100,000 population, whereas those aged 80 and older have an annual incidence
operative mortality is decreasing

2-yr survival rates:
resected 35%
unresected 7%

“it is important pts understand the risk of mortality as well as the significant advantage of surgical resection”
Management of Advanced Colon Cancer in a Community Hospital—Impact of Age on Clinical Management and Survival

Sujatha Mogili · Mobeen Yousaf · Nagendra Nadaraja · Timothy Woodlock

Abstract
Purpose Colon cancer is more common in the elderly than in younger and middle-aged people. Cancer clinical trials focus more on younger patients and the management of elderly patients with advanced disease is still unclear. Median survival decreased significantly with age ($p<0.05$).

Conclusions Age-related clinical management, decision-making autonomy, and survival are apparent in this study, and there was an increasing trend of patient’s involvement.
% patient’s preference to physician’s preference for surgery increased with age (29% vs 50%)

Table 4 Patient preference vs. physician preference for older age group

<table>
<thead>
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<th>Age group</th>
<th>No. of patients</th>
<th>Surgery (yes)</th>
<th>Surgery (no)</th>
<th>Patient preference/physician preference</th>
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<td>16</td>
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</table>

decision making process ?!?!??
Predicting the Probability of 90-Day Survival of Elderly Patients With Bladder Cancer Treated With Radical Cystectomy

Todd M. Morgan,* Kirk A. Keegan, Daniel A. Barocas, Nedim Ruhotina, Sharon E. Phillips, Sam S. Chang,† David F. Penson, Peter E. Clark,‡ Joseph A. Smith, Jr. and Michael S. Cookson§

From the Departments of Urologic Surgery (TMM, KAK, DAB, NR, SSC, DFP, PEC, JAS, MSC) and Biostatistics (SEP) and Center for Surgical Quality and Outcomes Research (DAB, DFP), Vanderbilt University Medical Center and Veterans Affairs Tennessee Valley Geriatric Research, Education and Clinical Center (DFP), Nashville, Tennessee

**Purpose:** Despite the increased morbidity and mortality of radical cystectomy in elderly individuals with bladder cancer numerous studies show that surgery can provide a survival benefit. We sought to better identify patients at substantial risk for postoperative mortality.

**Materials and Methods:** We evaluated 220 consecutive patients 75 years old or older treated with radical cystectomy for bladder cancer at a single institution from 2000 to 2008. The analytical cohort comprised 169 patients with complete preoperative data available. A Cox proportional hazards model was used to determine the value of pre cystectomy clinical information to predict 90-day survival after radical cystectomy. Results were used to create a nomogram predicting the probability of 90-day survival after radical cystectomy. The model was then subjected to 200 bootstrap resamples for internal validation.

**Results:** Of the 220 patients 28 (12.7%) died within 90 days of surgery. Older age (HR 2.30, 95% CI 1.22–4.32) and lower preoperative albumin (HR 2.50, 95% CI 1.40–4.45) were significant predictors of 90-day mortality. We developed a nomogram based on patient age, clinical stage, Charlson comorbidity index and albumin to predict the likelihood of 90-day mortality with 75% accuracy. Internal validation showed a bootstrap adjusted concordance index of 71%.

**Conclusions:** We developed a nomogram that provides individualized risk estimations to predict the probability of 90-day mortality, potentially enhancing preoperative counseling and providing clinicians with an added tool to individualize treatment decisions.

**Abbreviations and Acronyms**
CCI = Charlson comorbidity index
c-index = concordance index
RC = radical cystectomy
VUMC = Vanderbilt University Medical Center

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† Financial interest and/or other relationship with Endo, Allergan, Cantoroc Ortho Biotech and GE Healthcare.
‡ Financial interest and/or other relationship with Tension.
§ Financial interest and/or other relationship
CardioPulmonary Exercise Testing (CPEx)

Formal assessment of maximum oxygen consumption during exercise (VO2 max)

Cohort studies and a meta-analysis report the association of low VO2 max and ‘high risk’ lung resection

Studies are under-powered: mortality rate for lobectomy averages 2% (largest study on 422 pts had 15 deaths)

Anaesthesia TF @ SIOG
Scoring systems for ICU and surgical patients:
Thoracscore (The Thoracic Surgery Scoring System)

<table>
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<th>Variables (help)</th>
<th>Values (all values are mandatory)</th>
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Logit = -7.3737 + Sum (beta)
Predicted death rate = \(\frac{e^{\text{Logit}}}{1 + e^{\text{Logit}}}\)

Reference
  J Thorac Cardiovasc Surg 2007; 133: 325-32
risk prediction & decision making process for SURGICAL patients:

CGA vs GFI - VES13 - TUG

>300 patients entered

median age 76yrs

tests are predictive - some is better...
Gait Speed as an Incremental Predictor of Mortality and Major Morbidity in Elderly Patients Undergoing Cardiac Surgery

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Montreal, Quebec, Canada; and Durham, North Carolina

Objectives
The purpose of this study was to test the value of gait speed, a clinical marker for frailty, to improve the prediction of mortality and major morbidity in elderly patients undergoing cardiac surgery.

Background
It is increasingly difficult to predict the elderly patient’s risk posed by cardiac surgery because existing risk assessment tools are incomplete.
Robot assisted radical prostatectomy for elderly patients with high risk prostate cancer

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Received 20 October 2010; received in revised form 23 November 2010; accepted 30 November 2010

Abstract

Objectives: The role of robot assisted radical prostatectomy (RARP) for high-risk prostate cancer (CaP) is controversial, as is the role of RARP in elderly men. We evaluate outcomes of elderly patients with high-risk CaP who have chosen RARP over radiation or hormonal therapy.

Materials and methods: Between April 2001 and November 2009, 69 elderly patients (≥70 years) with high-risk CaP underwent RARP at our institution. High-risk CaP was defined using the D’Amico criterion, PSA ≥ 20 ng/ml, biopsy Gleason score 8–10, or clinical stage ≥ cT2C. Outcomes were retrospectively analyzed.

Results: Preoperative high-risk features were PSA > 20: 11 patients (15.9%), biopsy Gleason score 8–10: 43 (62.3%), or clinical stage ≥ cT2C: 25 (36.2%). Median OR time was 175 minutes (IQR: 136.8–202.5) and median EBL was 150 cc (IQR: 100–200). There were 4 complications (5.8%): urine leak (2) and ileus (2). Median duration of stay was 1 day and no patient had a hospital stay over 3 days. On final pathology, 26 men (37.7%) had organ-confined disease with negative surgical margins and 27 (39.1%) had extracapsular extension with negative margins. Biochemical recurrence occurred in 12 patients (17.4%) at a median follow-up of 37.7 months. There was a single
Improved Outcomes Associated With Higher Surgery Rates for Older Patients With Early Stage Nonsmall Cell Lung Cancer

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BACKGROUND: Although surgery offers the greatest chance of a cure for patients with early stage nonsmall cell lung cancer (NSCLC), older and sicker patients often fail to undergo resection. The benefits of surgery in older patients and patients with multiple comorbidities are uncertain. METHODS: The authors identified a national cohort of 17,638 Medicare beneficiaries aged ≥66 years living in Surveillance, Epidemiology, and End Results (SEER) areas who were diagnosed with stage I or II NSCLC during 2001 to 2005. Areas with high and low rates of curative surgery for early stage lung cancer were compared to estimate the effectiveness of surgery in older and sicker patients. Logistic regression models were used to assess mortality according to the quintile of area-level surgery rates, adjusting for potential confounders. RESULTS: Less than 63% of patients underwent surgery in low-surgery areas, whereas >79% underwent surgery in high-surgery areas. High-surgery areas operated on more patients of advanced age and patients with chronic obstructive pulmonary disease than low-surgery areas. The adjusted all-cause 1 year mortality was 18% in high-surgery areas versus 22.8% in low-surgery areas (adjusted odds ratio [OR], 0.89; 95% confidence interval [CI], 0.86-0.93) for each 10% increase in the surgery rate). The 1-year lung-cancer-specific mortality similarly was lower in high-surgery areas (12%) versus low-surgery areas (16.9%; adjusted OR, 0.86; 95% CI, 0.82-0.91) for each 10% increase in the surgery rate. CONCLUSIONS: Higher rates of surgery for stage I/II NSCLC were associated with improved survival, even when older patients and sicker patients underwent resection. The authors concluded that more work is needed to identify and reduce barriers to surgery for early stage NSCLC. Cancer 2011;000:000-000.

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KEYWORDS: nonsmall cell lung cancer, surgery, survival, geriatric oncology, comorbidity.
When Reporting on Older Patients with Cancer, Frailty
Information is Needed

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Any effort to bring new light on the management of older patients with cancer should be welcomed and considered of interest. A large amount of evidence has now been gathered, proving significant delays in cancer detection, under-staging, and substandard treatment of this age subgroup is not sufficient to characterize these patients; after a decade of discussion with geriatricians, it is now clear that Comprehensive Geriatric Assessment is the most accurate instrument. Unfortunately, this is not adequate for our current clinical practice because it requires several...
Surgery