GU Cancers in the Elderly: Overview & Research Priorities

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# Population Changes

<table>
<thead>
<tr>
<th>Region</th>
<th>1995</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>5.7 billion</td>
<td>9.4 billion</td>
</tr>
<tr>
<td>Africa</td>
<td></td>
<td>+ 200%</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>+ 30%</td>
</tr>
<tr>
<td>Europe</td>
<td></td>
<td>−18%</td>
</tr>
<tr>
<td>U.S.: Age &gt; 100 y</td>
<td>37,000</td>
<td>1 million</td>
</tr>
</tbody>
</table>

FALL PREVIEW: A SNEAK PEEK AT MOVIES, TV, MUSIC & BOOKS

HOW TO LIVE TO BE 100 (AND NOT REGRET IT)
U.S. Population Older Than 65 Years of Age

- Population > 65 y (millions)
- Year

- 1960
- 1980
- 2000
- 2020
- 2040
Annual Incidence of Cancer by Age
FIGURE 6 Death Rates* for Cancer and Heart Disease for Ages Younger than 85 and 85 and Older, 1975 to 2004

From Jemal, A. et al.
FIGURE 3 Annual Age-adjusted Cancer Incidence Rates* for Selected Cancers by Sex, United States, 1975 to 2004

FIGURE 4 Annual Age-adjusted Cancer Death Rates* Among Males for Selected Cancers, United States, 1930 to 2004

The “oldest of the old”

• The age group 85 and older will more than double from 4.3 million persons to approximately 8.9 million persons in 2030.

• Life expectancy: Persons who survive to 85 can be expected to live an average of approximately 6 or more years.
South Texas Veterans HCS Cancer Program Data

- 41% of newly diagnosed cancer in this system is in veterans age 70 and older (2003 data)
- Five major cancer sites (Total annual cases 596):
  - Prostate (34%)
  - Lung (14%)
  - Colo-rectal (9%)
  - Head and neck cancer (9%)
  - Kidney & Bladder (8%)
Comorbidity and Cancer: Health Status Changes with Age

- Comorbidities (i.e., concomitant illnesses, other health problems) are superimposed on cancer
- Physiological decrements
- Prevalence of chronic diseases
- Illnesses may present differently clinically
- Vulnerability to geriatric syndromes (i.e., incontinence, falls, cognitive decline)
- Susceptibility to infectious diseases
- Physical alterations (e.g., disability)
Table 1: Rates of Medical Comorbidities and Treatment Modalities among Geriatric Cancer Patients, by Age Group (N=197,797)


<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Age 70-84 n=175,213 (89.9%)</th>
<th>Age 85+ n=19,584 (10.1%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression **</td>
<td>9.8%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Dementia **</td>
<td>2.8%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Frailty **</td>
<td>16.1%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Osteoarthritis **</td>
<td>20.1%</td>
<td>24.1%</td>
</tr>
<tr>
<td>Dyspepsia/Peptic Ulcerative Disease</td>
<td>2.9%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Hypertension **</td>
<td>70.2%</td>
<td>67.3%</td>
</tr>
<tr>
<td>Hyperlipidemia **</td>
<td>54.0%</td>
<td>38.0%</td>
</tr>
<tr>
<td>Heart Disease (includes CHF, CAD, etc.) **</td>
<td>39.2%</td>
<td>44.0%</td>
</tr>
<tr>
<td>Diabetes **</td>
<td>25.6%</td>
<td>19.7%</td>
</tr>
<tr>
<td>Lung Disease (pneumonia, COPD) **</td>
<td>20.6%</td>
<td>19.5%</td>
</tr>
</tbody>
</table>
Summary: Assessment Tools

- Mental
  - MMSE
  - Confusion Assessment Method
- Functional
  - ADL/IADL
  - ECOG or Karnofsky scales
- Visual/Auditory
  - Activities of Daily Vision Scale
  - Whisper Test
- Nutritional
  - Weight and Labs
Summary: Assessment Tools (cont.)

- Gait and Balance
  - TUG
  - Performance-Oriented Mobility Assessment
- Mood
  - GDS
- Incontinence
  - Two-question screen
  - Urine culture and postvoid residual
- Environment
  - Home assessment
Older Age and Undertreatment

- Less screening
- Less staging
- Less aggressive treatment
- No treatment
Older Persons Underrepresented in Clinical Trials (cont.)

- Age bias
  - Physician
  - Patient and family
- Eligibility issues
- Access issues
  - Transportation
  - Cost
Cancer Clinical Trials in the Elderly

Under-representation in Trials


<table>
<thead>
<tr>
<th></th>
<th>SWOG (%) N= 16, 396 164 Trials</th>
<th>FDA (%) N= 29, 350 59 Trials</th>
<th>SEER (%) (Proportion of pts &gt;65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>9</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>Lung</td>
<td>39</td>
<td>35</td>
<td>67</td>
</tr>
<tr>
<td>Colo-rectal</td>
<td>40</td>
<td>41</td>
<td>70</td>
</tr>
<tr>
<td>Pancreas</td>
<td>38</td>
<td>31</td>
<td>71</td>
</tr>
<tr>
<td>Leukemia</td>
<td>27</td>
<td>24</td>
<td>54</td>
</tr>
</tbody>
</table>
# Cancer Clinical Trials in the Elderly

**Under-representation in Trials**


<table>
<thead>
<tr>
<th>Overall Patient Population</th>
<th>SWOG (%) N= 16, 396 164 Trials</th>
<th>FDA (%) N= 29, 350 59 Trials</th>
<th>SEER (%) (Proportion of pts &gt;65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 65</td>
<td>25</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>Age &gt; 70</td>
<td>13</td>
<td>20</td>
<td>46</td>
</tr>
</tbody>
</table>
Data do not represent the Group

• Randomized Clinical Trial Database analyses have concluded that there is little difference in outcome of cancer treatment by age.
  – However, the elderly who are often enrolled on these trials have been the Olympic athletes of the group: good organ function; good functional status; receiving “full-dose.”
Effect of Age on Surgery

- Age > 70 y is associated with increased morbidity and mortality
  - Related to comorbidities and type of procedure
- Comorbidities should be carefully assessed
  - Recent myocardial infarction
  - Congestive heart failure
  - Pulmonary disease
  - Renal function

Shall We Operate?
(PACE Crit Review Oncol Hematol 2008;65:156-163)

• PACE (Pre-op Assessment of Cancer in the elderly)
  – MMS, ADL, IADL, GDS, BFI, ECOG PS, ASA scale, Co-morbidity index (Satariano)
  – Likelihood of post-op complication increased about 50% when
    • Elderly have a dependent IADL
    • Abnormal Functional Status (performance status)
    • Moderate/Severe Brief Fatigue Inventory (BFI) score pre-op

• PACE should be used routinely in surgical practice
Effect of Age on Radiation Therapy

- Age does not impair effectiveness
- Age is not associated with greater toxicity
- Logistical issues
  - Treatment positioning
  - Transportation

Effect of Age on Systemic Therapy

- Pharmacological considerations
  - Decreased glomerular filtration rate and renal clearance
  - Decreased hepatic blood flow
  - Decreased cytochrome P-450

Muscle-Invasive Bladder Ca in the Elderly: Challenges

- Increased risk of perioperative complications
- Management of orthotopic bladder or urinary diversion options
- Higher risk of adverse events from combined modality therapy, chemo, radiation
Bladder Cancer Management Options in the Elderly

(Clinical Trials should be Ideal Standard of Care for All Patients with Cancer)

• FIT Elderly (ECOG 0-1; Independent in IADLs, Charlson Comorbidity <2)
  – Standard-of-care management

• Vulnerable Elderly (ECOG 0-1, mild dependence in IADLs, Charlson Comorbidity 2)
  – TURB; Monotherapy;

• Frail Elderly (ECOG-2, heavy dependence on IADL, Charlson >2)
  – Supportive Care, Pain & Symptom Management
Hormone-resistant Prostate Ca in the Elderly: Challenges

(Italiano A et al, Eur Urol 2008 Aug 8, e publication)

• Docetaxel-based chemotherapy is feasible in Fit Elderly

• Adapted regimens (weekly schedule etc.,) in frail elderly are associated with G ¾ toxicity and early discontinuation rates are high

• Need to define what constitutes Frail; and what is “optimal” treatment.
Metastatic Renal Cancer in the Elderly

• Based on subgroup analyses of published trials, elderly (age >65) benefit from targeted therapy as much as younger patients

• No data on age 85 and older

• Toxicity Profiles—Top 4 toxicities of each agent:
  – Sunitinib: Diarrhea, Rash, Fatigue, Hand-Foot
  – Sorafenib: Diarrhea, Fatigue, nausea, Stomatitis
  – Temsirolimus: Asthenia, Rash, Nausea, Anorexia
Research Priorities 2009

- Enroll elderly patients on to available clinical trials
- Design Prospective Trials for the elderly
  - Progressively Increasing Inclusion Criteria (PIIC) Trial Design for Adjuvant therapy (and Pre-operative chemo) for Bladder Cancer
- Collect Geriatric Assessment Data (pre-treatment and longitudinal) on cohorts of elderly patients with GU cancer
- Collaborative Research (Geriatric Medicine, Biology of Aging, Translational Research, Clinical Trials, Palliative Care research, & Epidemiology)
Geriatric Oncology Clinics at UTHSCSA

• CTRC
  – Isam Abdel-Karim, Sandra Sanchez-Reilly
    • Weekly, Friday, All Patients Age 70 and older

• VA
  – Anand Karnad, Tricia Wolff, Isam Abdel-Karim, Cesar de Las Casas
    • Weekly, Monday, All Patients Age 70 and older; Octogenarian Clinic
Acknowledgements

• Tricia Wolff for geriatric oncology care and research at the V A
• Staff of the CTRC Geriatric oncology clinic
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