Integrating Geriatric Oncology Principles in Manitoba

David Dawe, MD FRCPC
Medical Oncologist, CancerCare Manitoba
Assistant Professor, University of Manitoba
Presenter Disclosure

- **Faculty:** David Dawe, MD FRCPC

- **Relationships with commercial interests in last 12 months:**
  - **Grants/Research Support:** None
  - **Speakers Bureau/Honoraria:** Merck and AstraZeneca Advisory Boards
  - **Consulting Fees:** None
  - **Other:** I am the medical lead for CCMB’s FIT Initiative
Mitigating Potential Bias

• This talk does not refer to any specific treatments
• All suggestions are supported by references
Objectives

At the end of this workshop, participants will be able to:

• Provide a brief overview of geriatric oncology principles
• Be aware of the CCMB initiative to address gaps in knowledge and practice for frail and elderly cancer patients
• Provide concerns or questions to inform the initiative
What is Geriatric Oncology?

• Integration of Oncology and Geriatrics
  – Oncologists focus on assessment of cancer variables, such as tumor biology and stage, and develop cancer-specific treatment plans

  – Geriatricians assess physiologic age and functional status, and focus on optimizing an individual's independence

• Goal is to optimally treat cancer WITHIN the context of geriatric considerations
MEDICAL ONCOLOGY IS GERIATRIC ONCOLOGY
Manitoba

• Between 2009-2014 of all cancers diagnosed in Manitoba 44.9% were in patients 70+ years

• 20 of 56 cancers have >50% diagnosed in 70+

• GI and Thoracic have 53% and 55% respectively diagnosed in those 70+

• 55% of multiple myelomas are also diagnosed in those 70+
Numbers of Elderly (70+)

- GI: 700
- Thoracic: 500
- GU: 400
- Breast: 300
- Heme: 200
- Gyne: 100
- H+N: 50
- Melanoma: 50
- CNS: 10
- Sarcoma: 10
Context

• This increase in elderly individuals and increased numbers of elderly cancer patients occurs in the context of:
  – A shortage of geriatricians (especially in Winnipeg)
  – A shortage of primary care physicians
  – Proliferation of less toxic agents in medical oncology
  – Increasing cost of oncology drugs
  – Little formal education during Internal Medicine on geriatric principles

• So, we need to learn how to deal with these issues
FACTORS AFFECTING TREATMENT DECISIONS
Physiologic changes

• Renal
  – Glomerular filtration rate decreases by 1 mL/min/year after age 40 years
  – Changes lead to decreased clearance of many drugs
  – Higher risk of dehydration and electrolyte imbalances

• Hematopoietic system
  – Decreased cellularity, precursor proliferation, and cell mobilization in the bone marrow
  – These changes result in higher incidence and severity of myelosuppression/neutropenia in the elderly

Lubran MM. Ann Clin Lab Sci 1995
Morrison VA. Clin Lymphoma 2001
Physiologic changes

• Gastrointestinal System
  – Reduced gastric blood flow and delayed emptying
  – Reduced intestinal absorption
  – Decreased mucosal protection with mucous and bicarb
  – Decreased hepatic mass and blood flow
  – Impaired activity of cytochrome P450

• All of these factors contribute to poor predictability of blood levels for both oral agents and those with hepatic metabolism

Wildiers H in Practical Geriatric Oncology 2010.
Dawe DE. Frontiers in Oncology 2014.
Co-morbidities

• Incidence of co-morbidities increases with older age among cancer patients

• In the 70+ age-group only about 25% are without non-cancer co-morbidities

• Can change decision-making around therapy and is associated with poorer outcomes

Ogle, KS. Cancer 2000.
Polypharmacy

• Defined based on number of meds or presence of unnecessary meds

• Can cause adverse drug events, drug–drug interactions, and reduced adherence to drugs thought to be essential

• 32-51% of patients

• Associated with frailty

Turner J. J Geri Onc 2017
LeBlanc TW. Lancet Oncol 2015
Patient selection

• We may be treating too few elderly

• However, the bigger issue revolves around selecting those elderly patients who are most likely to tolerate treatment
  
  — We need to treat the RIGHT patients
Frailty

- Increased vulnerability to stressors
- Manifests as poor resolution of homeostasis after an event that stresses body systems and increases the risk of adverse events
ECOG/Karnofsky in the Elderly

• In the geriatric population, assessment of ADLs and IADLs have proved to have greater predictive value than ECOG/Karnofsky

• The recommendation is to pursue a comprehensive geriatric assessment

What is a CGA?

A comprehensive geriatric assessment involves a multidimensional evaluation of the following:

- Co-morbidity
- Function
- Physical performance
- Cognition
- Nutrition
- Polypharmacy
- Emotional status
- Social support / living environment

Balducci L. Surgical Oncol. 2009
Detection of geriatric problems

- Repetto et al showed that CGA detected co-morbidities and functional limitations that standard oncologic evaluation missed.

- Extermann et al found on average 6 new problems in cancer patients who underwent CGA, which directly impacted oncologic tx in 26% of patients.

- Silverman demonstrated this in an RCT of outpatients as well.

Repetto L. JCO 2002.  
## Can we incorporate it?

<table>
<thead>
<tr>
<th><strong>PROS</strong></th>
<th><strong>CONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Changes chemo plan in 20% of patients</td>
<td>• Typical CGA takes ~1 hour</td>
</tr>
<tr>
<td>• Identifies important issues</td>
<td>• Shortage of geriatricians</td>
</tr>
<tr>
<td>• May predict chemo toxicity</td>
<td>• Lack of dual trained oncologists</td>
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<td></td>
<td>• In consultative model, primary oncologist may ignore recommendations</td>
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Frailty Screening Tools

• Screening tools were not created to replace geriatric evaluation and cannot provide a thorough assessment of an older individual’s health status.

• More information is needed on how screening tools are related to outcomes, including chemotherapy toxicity, functional decline, and survival.

PREDICTING CHEMOTHERAPY TOXICITY
CGA vs Oncologist’s gut

- Tucci et al. 2009
  - CGA vs clinical judgment in DLBCL
    - Clinical judgment standard of care
      - 74% patients “fit” – received aggressive tx
    - By CGA 50% of pts “fit”
    - The 20 pts with disagreement had characteristics similar to other “unfit” pts

Tucci A. Cancer 2009.
Tucci et al. 2009

- Those classified as “fit” by CGA did better than those classified “fit” by clinical judgment
- Those with disagreement
  - Toxicity similar to unfit group
What can we do about it?

• Some toxicities (like febrile neutropenia) may require admission to hospital and specialized treatment.

• Others may necessitate dose reduction, chemo delay, G-CSF, or treatment cessation.

• Therefore, having a better sense of the likelihood of toxicity allows us to prepare for potential adverse events or consider a different therapy from the outset.
WHAT ARE WE STARTING AT CCMB?
FIT – Frailty Identification in Treatment

Goal:
To improve experiences and outcomes of frail and elderly patients
Research:
Engage in research that enables CCMB to publish new data and enhance both organizational awareness and planning around frail and elderly cancer patients.

How:
- Epidemiology projects
- Screening tool pilot and implementation
- Environmental scan of resources for older adults in Manitoba

Expected outcomes:
- Use of screening tool
- Resource repository
- Completion of Epi projects
- Publish manuscript and internal reports
- Establish organizational treatment guidelines
Clinical:

i) Improve care providers’ ability to screen for frailty and apply geriatric oncology principles in their practice

ii) Improve access to geriatric resources for patients

How:

• Implement screening tool
• Focus group with patients and families
• Needs assessment with GPAT, FPs, agencies
• Collaborate with Transition team

Expected outcomes:

• Tool implemented
• Increased knowledge
• New interventions to address needs
• Establish network of providers
• Patient guide
• Develop & pilot safe transition appointment
• CCMB to be a leader
Education:
Increase care providers knowledge of geriatric oncology principles

How:
• Collaborate with UPCON & COP
• Develop conference(s) plan
• Training
  • CCCEC
  • Pilot
  • Education event
  • Rounds
  • CCP
• Staff knowledge assessment

Expected outcomes
• 1-day conference/ workshop
• Identify target knowledge needs
• Develop education plan for CCMB
• 4 annual learning opportunities
• Increased confidence to provide care to frail/elderly
• National conference on Geriatric Oncology
• Adherence to treatment guidelines

2017 Community Cancer Care Educational Conference
Conclusions

• The “Silver Tsunami” has started in oncology

• In elderly patients, decision-making is complicated by:
  – Co-morbidity
  – Age-related physiologic changes
  – Polypharmacy
  – A relative lack of trial data

• Fit elderly benefit as much as younger patients
Conclusions

• Some form of geriatric assessment needs to be implemented

• Full CGA use is a challenge due to time constraints

• Either screening with validated tools or use of toxicity prediction scores may be an alternative
Questions?

THANK YOU
CARG Score

• Examined 500 pts, mean age 73 yrs
• 61% Stage 4 disease

• Performed the largely self-administered CGA Hurria previously described

• Performed multivariate analysis to derive a shorter tool to predict chemo toxicity

• Toxicity defined by NCI CTCAE v3.0

Hurria A. JCO 2011
CARG Score

- 43% required assistance with IADL
- 18% had fallen in last 6 months
- 44% had >2 co-morbidities
- 6% cognitive impairment (B-OMC >10)
- 16% anxiety/depression (HADS >14)
- 38% weight loss ≥ 5%
- 12% BMI < 22

Hurria A. JCO 2011
# CARG Score

<table>
<thead>
<tr>
<th>Risk Factors for Grade 3-5 toxicity</th>
<th>OR (95% CI)</th>
<th>Score</th>
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<tbody>
<tr>
<td>Age ≥ 72 yrs</td>
<td>1.8 (1.2-2.7)</td>
<td>2</td>
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<tr>
<td>GI/GU cancer</td>
<td>2.2 (1.4-3.3)</td>
<td>2</td>
</tr>
<tr>
<td>Standard dose</td>
<td>2.1 (1.3-3.5)</td>
<td>2</td>
</tr>
<tr>
<td>Poly-chemotherapy</td>
<td>1.8 (1.1-2.7)</td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin (&lt;110 male, &lt;100 female)</td>
<td>2.2 (1.1-4.3)</td>
<td>3</td>
</tr>
<tr>
<td>CrCl (Jeliffe – ideal wt) &lt; 34cc/min</td>
<td>2.5 (1.2-5.6)</td>
<td>3</td>
</tr>
<tr>
<td>1 or more falls in last 6 months</td>
<td>2.3 (1.3-3.9)</td>
<td>3</td>
</tr>
<tr>
<td>Hearing impairment (fair or worse)</td>
<td>1.6 (1.0-2.6)</td>
<td>2</td>
</tr>
<tr>
<td>Limited in walking 1 block (MOS)</td>
<td>1.8 (1.1-3.1)</td>
<td>2</td>
</tr>
<tr>
<td>Assistance required in med intake</td>
<td>1.4 (0.6-3.1)</td>
<td>1</td>
</tr>
<tr>
<td>Decreased social activity (MOS)</td>
<td>1.3 (0.9-2.0)</td>
<td>1</td>
</tr>
</tbody>
</table>

Scoring Range 0-23

2017 Community Cancer Care Educational Conference
CARG Score

Hurria A. JCO 2011