

Geriatrics and Cancer Care

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Disclosure

- No competing interests in regards to the content of this presentation.



Objectives

Upon completion, you will be able to:

- Apply the concept of frailty to guide cancer care in the older patient.
- Understand the impact of dementia and delirium in the older cancer patient.



Background

- Cancer is more common in older adults.
 - Theories: immune senescence, genetic changes (telomere shortening), accumulation of hazardous changes (e.g. free radicals), etc.
- Cancer mortality is higher in older adults.
- Older cancer patients are under-represented in clinical trials.
- Older cancer patients are responsive to chemotherapy, at risk for developing toxicity, and less likely to be offered therapy.

Older Cancer Patients are Frail

- Frailty refers to the vulnerability of seniors to adverse outcomes (e.g. functional decline, cognitive impairment).
- These in turn trigger a vicious cycle of physical, mental and psychosocial decline.
- Final results are increased dependency and higher institutionalization rates.
- High social and economic costs.

Frailty Phenotype Model

3 or more of:

- Unintentional weight loss (10 lbs past year)
- Self-reported exhaustion
- Low physical activity
- Slow walking speed
- Weakness (grip strength)

Deficit Accumulation Model

- Frailty is state of non-specific vulnerability.
- Arises from multiple, interacting, medical and social problems (assets vs. deficits).
- Dynamic state.
- Appears to be an instance from a larger set of complex phenomena.



Karnofsky Performance Status

- 100 – normal, no complaints, no signs of disease
- 90 – capable of normal activity, few symptoms or signs of disease
- 80 – normal activity with some difficulty, some symptoms or signs
- 70 – caring for self, not capable of normal activity or work
- 60 – requiring some help, can take care of most personal requirements
- 50 – requires help often, requires frequent medical care
- 40 – disabled, requires special care and help
- 30 – severely disabled, hospital admission indicated but no risk of death
- 20 – very ill, urgently requiring admission, requires supportive measures or treatment
- 10 – moribund, rapidly progressive fatal disease processes
- 0 – death

WHO/Zubrod/ECOG Score

- 0 Asymptomatic
 - Fully active, able to carry on all pre-disease activities without restriction
- 1 Symptomatic but completely ambulatory
 - Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature. For example, light housework, office work
- 2 Symptomatic, <50% in bed during the day
 - Ambulatory and capable of all self care but unable to carry out any work activities. Up and about more than 50% of waking hours
- 3 Symptomatic, >50% in bed, but not bedbound
 - Capable of only limited self-care, confined to bed or chair 50% or more of waking hours
- 4 Bedbound
 - Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair
- 5 Death

Why Measure Disability?

- Functional loss is associated with:
 - Increased hospitalization risk
 - Increased institutionalization risk
 - Increased caregiver burden
 - Decreased independence
 - Decreased quality of life
- Societal & financial impact



Predictors of Future Disability

- History of prior disability
- Poor lower extremity function
- Depression
- Dementia and cognitive impairment

Am J Epidemiol. 2003 Dec 1; 158(11): 1090-1096.
N Engl J Med. 1995; 332(9): 556-561.
JAMA. 1998; 279(21): 1720-1726.
Gerontology. 2002; 48(4): 226-233.



Chemo Toxicity Prediction Model

■ Age \geq 72	2
■ GI or GU cancer	2
■ Chemotherapy standard dosing	2
■ Poly-chemotherapy	2
■ Hb <11 (male), <10 (female)	3
■ CrCl <34 mL/min	3
■ Hearing impairment	2
■ Fall once or more in last 6 months	3
■ Impaired medication use	1
■ Limitation in walking 1 block	2
■ Limitation in social activity	1

Predicting Chemotherapy Toxicity in Older Adults With Cancer: A Prospective Multicenter Study

Arti Hurria, Kayo Togawa, Supriya G. Mohile, Cynthia Owusu, Heidi D. Klepin, Cary P. Gross, Stuart M. Lichtman, Ajeet Gajra, Smita Bhatia, Vani Katheria, Shira Klapper, Kurt Hansen, Rupal Ramani, Mark Lachs, F. Lennie Wong, and William P. Tew

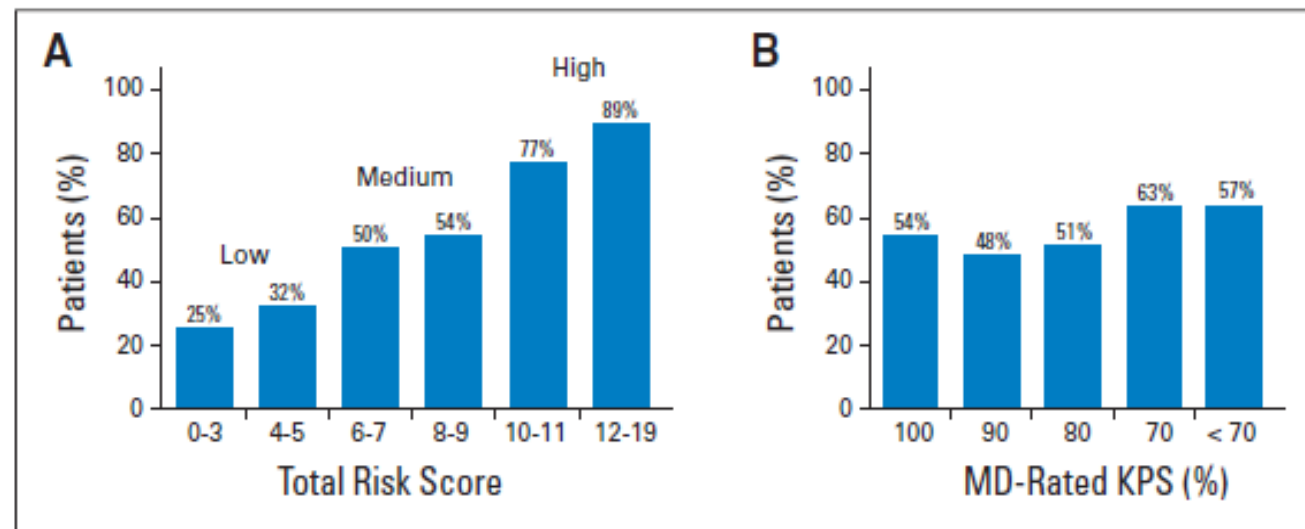
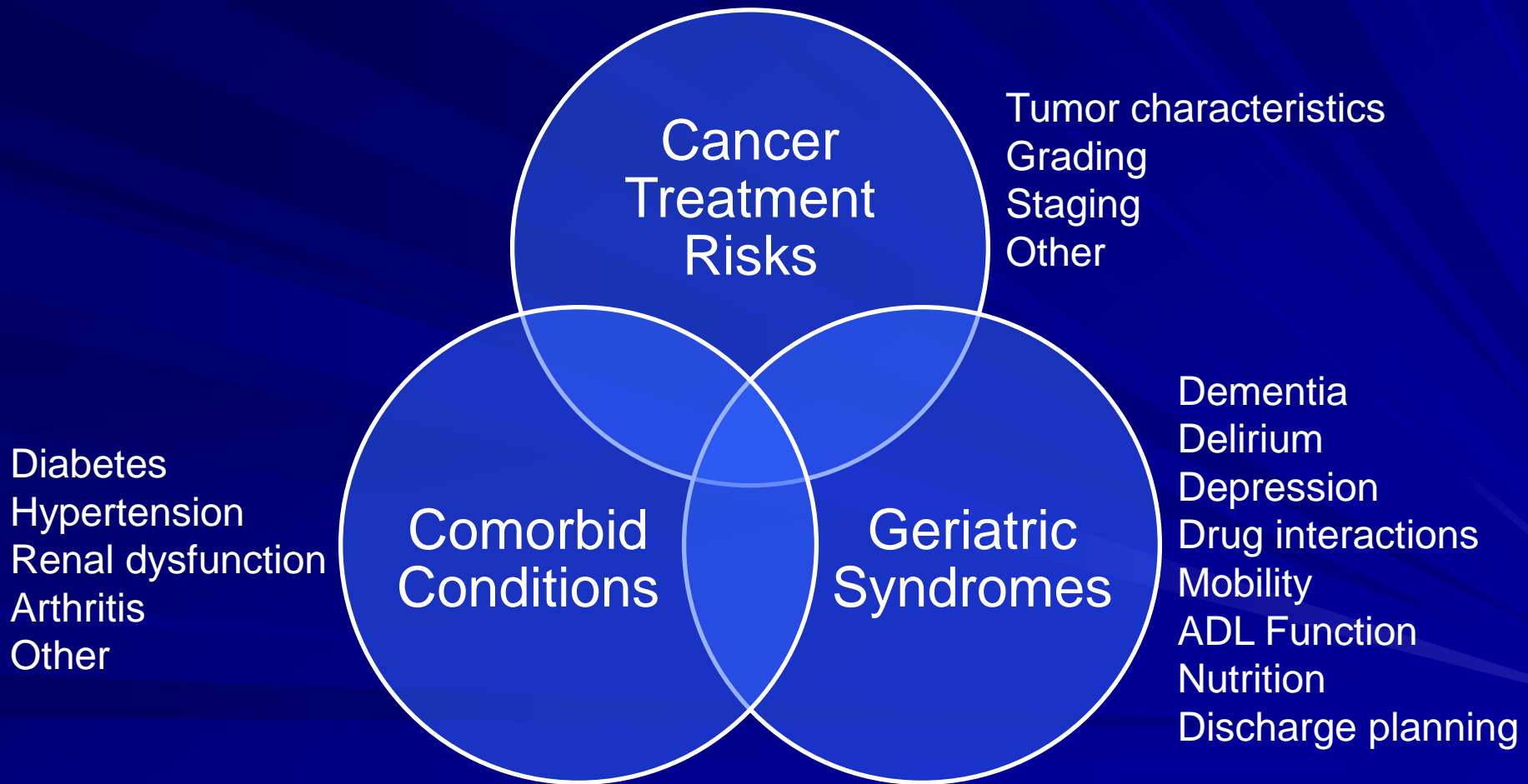


Fig 1. Ability of (A) risk score versus (B) physician-rated Karnofsky performance status (KPS) to predict chemotherapy toxicity. Graphs show grade 3 to 5 toxicity.

CGA in Older Cancer Patient



Dementia in Cancer Patients

- Dementia is more common in older people, including cancer patients.
- High risk of delirium.
- High risk of functional decline.
 - Life expectancy vs. active life expectancy.
- Significant caregiver stress.
- Difficulty in granting consent.
- Advanced directives and goals of care.

Diagnostic Criteria of Delirium

- Disturbance in consciousness, reduced ability to focus, sustain, or shift attention.
- Change in cognition (such as memory, disorientation, speech, disturbance) or development of perceptual disturbance.
- Disturbance develops over hours to days and fluctuates in severity.
- Result of general medical condition.

Delirium Plus Dementia

- Prevalence of delirium superimposed on dementia ranges from 22% to 89% of hospitalized & community populations aged 65 and older with dementia.
- Adverse outcomes include accelerated and long-term cognitive and functional decline, need for institutionalization, rehospitalization, and increased mortality.

Prevalence of Delirium

Setting	% with delirium
Hospitalized medically ill patients	10-30%
Hospitalized elderly patients	10-40%
Hospitalized cancer patients	25%
Hospitalized AIDS patients	30-40%
Terminally ill patients	80%

Psychomotor Variants of Delirium

- **Hyperactive:**
 - Marked by agitation and vigilance.
- **Hypoactive:**
 - Marked by lethargy, with a markedly decreased level of motor activity.
- **Mixed.**

Common Causes of Delirium

- **D**rugs: intoxication or withdrawal (prescribed, OTC, illicit).
- **I**nfections (chest, GU tract, skin/soft tissue).
- **M**etabolic: endocrinopathy (Na, K, Ca, diabetes, thyroid), renal failure, liver failure.
- **S**tructural (stroke, hemorrhage, seizure, neoplasm).
- **F**ecal impaction.
- **U**rinary retention.

Delirium Prevention

- Multicomponent approach:
 - Orientation (cognitive exercises).
 - Mobilize early.
 - Minimize psychoactive drugs.
 - Prevent sleep deprivation.
 - Use eyeglasses and hearing aids.
 - Intervene volume depletion early.
- Effective in reducing delirium incidence and severity, but not recurrence.

Treating Delirium Symptoms

Non-pharmacologic approaches:

- Create calm, comfortable environment.
- Use orienting influences (calendars, clocks, familiar objects).
- Regular reorienting communication with staff.
- Involve family members in supportive care.
- Limit room and staff changes.
- Coordinate schedules (drugs, vitals, procedures) to allow uninterrupted sleep at night (low noise and lighting).
- Encourage normal sleep–wake cycles (open blinds, encourage wakefulness and mobility during daytime).
- Close clinical follow-up.

Treating Delirium Symptoms

Pharmacologic approaches:

- Consider when delirium symptoms threaten safety of self or others, interrupt essential therapy (mechanical ventilation, CVC, etc.).
- Use of algorithms and pre-printed orders.

Referral to Geriatric Services

Multiple and/or complex medicine problems in the elderly
Cognitive impairment (dementia, delirium, or combination)
Affective disorder (depression) in the medically ill
Polypharmacy and/or substance dependency
Recurrent falls, poor mobility and balance
Incontinence (urinary, fecal, or combination)
Functional decline
Malnutrition and weight loss
Pressure ulcer and skin breakdown
“Failure to thrive”
Discharge planning and need for institutionalization
Palliative care in the elderly

Summary

By now, you are empowered to:

- Apply the concept of frailty to guide cancer care in the older patient.
- Understand the impact of dementia and delirium in the older cancer patient.

