Approach to Decision Making in Older Patients with Cancer

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Overview

• Cancer - leading cause of death in women and men aged 60 to 79 years

• By 2030 - approximately 70% of all cancers will be diagnosed in adults aged 65 years or older

• Older adults are more prone to develop cancer than younger adults

• Becoming an increasingly common problem.

![Figure 1: Number of Persons 65+, 1900 - 2030 (numbers in millions)](chart.png)
Overview

- under-represented in clinical trials
- less evidence-based data to guide the treatment
- advanced age alone should not preclude treatment
- older patients with good performance status are able to tolerate chemotherapy
- few studies that have addressed patients at the extremes of age or with poor performance status

Objectives

• Address specific issues related to the management of cancer in older adults, including:

1. screening and comprehensive geriatric assessment (CGA)

2. assessing the risks and benefits of treatment

3. preventing or decreasing complications from therapy
Older patients can be classified into three categories:

1) young old patients are 65 to 75 years of age

2) old patients are 76 to 85 years of age

3) oldest old patients are older than 85 years of age.
• Life expectancy - can be estimated
• Life table data - Walter and Covinsky.
• For example:

  25% of the healthiest 75-year-old women will live more than 17 years

  50% will live at least 12 years

  25% will live less than 7 years.
Comprehensive Geriatric Assessment

CGA is a multidisciplinary, in-depth evaluation to assess life expectancy and risk of morbidity and mortality in older patients.

Assessment Tools

- Functional status
- Co-morbidities
- Polypharmacy
- Nutritional status
- Cognitive function
- Psychological status
- Socioeconomic issues
- Geriatric syndromes
Functional Status

- Self reported measures:
  1. ADLs
  2. IADLs

- Need for assistance with IADLs has been associated with:
  - decreased treatment tolerance
  - poorer survival in older patients with cancer
Functional Status

• Gait speed

• Timed up and Go test
Gait Speed

- Associated with survival in older adults.

- 0.8 meter/second as the cutoff

- Faster than 1.0 meter/second suggested a better-than-average life expectancy

- Above 1.2 m/sec suggested exceptional life expectancy.

Gait Speed

- Faster gait speed - associated with lower risk of death
- Lower 2-year progression to death or disability in patients with non-metastatic cancer.
Timed up and Go test

- Assess mobility and overall function
- Has been shown to predict the risk of falls
- Associated with good sensitivity and specificity in the assessment of falls in older patients with cancer
Comorbidities

- Localized or locally advanced prostate cancer

- Neoadjuvant hormonal therapy - associated with an increased risk of all cause mortality

- History of CAD, CHF, or MI after a median follow up of 5.1 years.

Nanda et al. JAMA. 2009
Comorbidities

- Adjuvant chemotherapy trial
- High-risk stage II and stage III colon cancer
- Patients with diabetes mellitus - higher rate of overall mortality and cancer recurrence.
- At 5 years, the DFS, OS, RFS were significantly worse for patients with diabetes compared with patients without diabetes.

Comorbidities

• SEER-Medicare database analysis of older patients (66 years or older)

• Stages I-III breast cancer

• With diabetes - increased rate of hospitalizations and higher all-cause mortality.

Comorbidity

- Adult comorbidity evaluation-27 (ACE-27) index
Comorbidity

- 310 older patients (70 years or older)
- Head and neck cancer
- Comorbidity as measured by the ACE-27 index was an indicator of OS.

Comorbidity

- Charlson Comorbidity Index (CCI)

Table 1. Charlson Comorbidity Index Scoring System

<table>
<thead>
<tr>
<th>Score</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Myocardial infarction (history, not ECG changes only)</td>
</tr>
<tr>
<td></td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td></td>
<td>Peripheral vascular disease (includes aortic aneurysm &gt;6 cm)</td>
</tr>
<tr>
<td></td>
<td>Cerebrovascular disease: CVA with mild or no residua or TIA</td>
</tr>
<tr>
<td></td>
<td>Dementia</td>
</tr>
<tr>
<td></td>
<td>Chronic pulmonary disease</td>
</tr>
<tr>
<td></td>
<td>Connective tissue disease</td>
</tr>
<tr>
<td></td>
<td>Peptic ulcer disease</td>
</tr>
<tr>
<td></td>
<td>Mild liver disease (without portal hypertension, includes chronic hepatitis)</td>
</tr>
<tr>
<td></td>
<td>Diabetes without end-organ damage (excludes diet-controlled alone)</td>
</tr>
<tr>
<td>2</td>
<td>Hemiplegia</td>
</tr>
<tr>
<td></td>
<td>Moderate or severe renal disease</td>
</tr>
<tr>
<td></td>
<td>Diabetes with end-organ damage (retinopathy, neuropathy, nephropathy, or brittle diabetes)</td>
</tr>
<tr>
<td></td>
<td>Tumor without metastases (exclude if &gt;5 y from diagnosis)</td>
</tr>
<tr>
<td></td>
<td>Leukemia (acute or chronic)</td>
</tr>
<tr>
<td></td>
<td>Lymphoma</td>
</tr>
<tr>
<td>3</td>
<td>Moderate or severe liver disease</td>
</tr>
<tr>
<td>6</td>
<td>Metastatic solid tumor</td>
</tr>
<tr>
<td></td>
<td>AIDS (not just HIV positive)</td>
</tr>
</tbody>
</table>

NOTE. For each decade > 40 years of age, a score of 1 is added to the above score.
Abbreviations: ECG, electrocardiogram; CVA, cerebrovascular accident; TIA, transient ischemic attack; AIDS, acquired immunodeficiency syndrome; HIV, human immunodeficiency virus.
Comorbidity

- Vinorelbine vs +/- gemcitabine
- Locally advanced non-small cell lung cancer
- CCI of greater than 2 - higher risk of early treatment suspension.

Comorbidity

- Cumulative Illness Rating Scale (CIRS)
Comorbidity

• Platinum-doublet therapy as first-line treatment

• Advanced stage NSCLC

• Comorbidities measured by CIRS

• Benefited from and tolerated platinum-doublet chemotherapy as well as patients with no comorbidities

Comorbidity

- OARS Multidimensional Functional Assessment Questionnaire
Polypharmacy

- Use of increased number of medications
- More than is clinically indicated
- Use of potentially inappropriate medications
- Medication underuse
- Medication duplication
Polypharmacy

- Cytochrome P-450 inhibitors or inducers can contribute to non-hematologic and hematologic toxicities.

*Journal of Clinical Oncology, 2008 ASCO Annual Meeting Proceedings*
Polypharmacy

- Use of inappropriate medications increased from 29% to 48% among cancer patients in the palliative care setting
Polypharmacy was observed in 48% of patients.

Use of inappropriate medications was seen in 11% to 18% of patients.

Associated with a higher frequency of hospitalization.

Early discontinuation of chemotherapy.
Evaluation of Polypharmacy

- Beers criteria

- Medication appropriateness index (MAI)
Beers Criteria

- Identify inappropriate medications
- Potential risks
- Drug-disease interaction
- Improve monitoring of drug use, e-prescribing
- Decrease adverse events in older adults and patient outcomes
Beers Criteria

- 53% - alteration in medication regimen
- 28% - potentially inappropriate medication discontinued
Beers Criteria

3 categories:

1. Potentially inappropriate medications to avoid in older adults

2. Potentially inappropriate medications to avoid in older adults with certain diseases and syndromes

3. Medications to be used with caution
Medication Appropriateness Index

- Measure appropriate prescribing
- 10-item list
- 3-point rating scale
- MAI scores were higher for medications with a high potential for adverse effects

Table 6. Medication Appropriateness Index (MAI)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is there an indication for the drug?</td>
<td>Indicated</td>
<td>2</td>
<td>Not indicated</td>
<td>3</td>
</tr>
<tr>
<td>2. Is the medication effective for the condition?</td>
<td>Effective</td>
<td>2</td>
<td>Ineffective</td>
<td>3</td>
</tr>
<tr>
<td>3. Is the dosage correct?</td>
<td>Correct</td>
<td>2</td>
<td>Incorrect</td>
<td>3</td>
</tr>
<tr>
<td>4. Are the directions correct?</td>
<td>Correct</td>
<td>2</td>
<td>Incorrect</td>
<td>3</td>
</tr>
<tr>
<td>5. Are the directions practical?</td>
<td>Practical</td>
<td>2</td>
<td>Impractical</td>
<td>3</td>
</tr>
<tr>
<td>6. Are there clinically significant drug-drug interactions?</td>
<td>Significant</td>
<td>2</td>
<td>Insufficient</td>
<td>3</td>
</tr>
<tr>
<td>7. Are there clinically significant drug-disease/condition interactions?</td>
<td>Significant</td>
<td>2</td>
<td>Insufficient</td>
<td>3</td>
</tr>
<tr>
<td>8. Is there unnecessary duplication with other drug(s)?</td>
<td>Necessary</td>
<td>2</td>
<td>Unnecessary</td>
<td>3</td>
</tr>
<tr>
<td>9. Is the duration of therapy acceptable?</td>
<td>Acceptable</td>
<td>2</td>
<td>Unacceptable</td>
<td>3</td>
</tr>
<tr>
<td>10. Is this drug the least expensive alternative compared with others of equal utility?</td>
<td>Least expensive</td>
<td>2</td>
<td>Most expensive</td>
<td>DK</td>
</tr>
</tbody>
</table>
Nutritional Status

- Mini-Nutritional Assessment (MNA)

- Rapid assessment of nutritional status in older patients in the outpatient settings

- Simple measurements

- Brief questions

- Help to identify people at risk for malnutrition
Cognitive Function

• Cognitively impaired have an increased risk of:

1. functional dependence
2. higher incidence of depression
3. greater risk of death
Socioeconomic Issues

• Socially isolated women

• Elevated risk of mortality after a diagnosis of breast cancer

• An evaluation of social support is an integral part of geriatric assessment

• Consultation with a social worker should be encouraged
Geriatric Syndromes

- Dementia
- Delirium
- Depression
- Distress
- Osteoporosis
- Falls
- Fatigue
- Frailty
Geriatric Syndromes

One or more geriatric syndromes:

• 60.3% of patients with cancer
• 53.2% of patients without cancer

Higher prevalence of:

• hearing trouble
• urinary incontinence
• falls
• depression
• osteoporosis
Dementia

• Impairment of memory

• At least one other cognitive function:
  – Aphasia
  – Apraxia
  – Agnosia
  – Executive function

• Inability to perform daily functions independently
Dementia

- SEER database

- Older patients with colon cancer and dementia

- Less likely to receive invasive diagnostic methods or therapies
Dementia

- High mortality in patients 68 years or older
- Diagnosed with breast, colon, or prostate cancer
Mild Cognitive Impairment

- Intermediate state between normal cognition and dementia
- Subjective memory impairment
- Preserved general cognitive function
- Intact ability to perform daily functions

Figure 1. Current diagnostic algorithm for diagnosing and subtyping MCI

MCI = mild cognitive impairment.

Dementia

- Blessed Orientation-Memory-Concentration (BOMC) test

The Blessed Orientation-Memory-Concentration (BOMC) Test

"Now I'd like to give you a short memory test that will take about 5 minutes. Some questions will be easy; some may be more difficult. Are you ready?"

<table>
<thead>
<tr>
<th>Item</th>
<th>Maximum Error</th>
<th>Score</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What year is it now?</td>
<td>1</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>2. What month is it now? Memory please. Repeat phrase after me: &quot;John Brown, 42 Market Street, Chicago.&quot;</td>
<td>1</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>3. About what time is it (within 1 hour)?</td>
<td>1</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>4. Count backwards 20 to 1.</td>
<td>2</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>5. Say the months in reverse order (start with December)</td>
<td>2</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>6. Repeat the memory phrase: (1) John (2) Brown (3) 42 (4) Market (5) Chicago</td>
<td>5</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The scores from each of the six items are multiplied to yield a weighted score. Score 1 for each incorrect response. Weighted error scores greater than 10 are consistent with dementia.

Scoring items 4 and 5: For uncorrected errors, score "2"; for self-corrected errors, score "1". For no errors, score "0".

Scoring the memory phrase: If no cue is necessary and the patient recalls both name and address, score "0". If patient cannot spontaneously recall the name and address, cue with "John Brown" once only. If this cue is necessary, the patient automatically has 2 errors.

Score 1 point for each subsequent "unit" the participant cannot recall.

Dementia

- Blessed Orientation-Memory-Concentration (BOMC) test
- Mini-Mental State Exam (MMSE)
Dementia

- Blessed Orientation-Memory-Concentration (BOMC) test
- Mini-Mental State Exam (MMSE)
- Montreal Cognitive Assessment (MoCA)
Blessed Orientation-Memory-Concentration (BOMC) test

- 6-item test
- Discriminate mild, moderate, and severe cognitive deficits
Mini-Mental State Exam

- 11-item screening test
- Assesses the severity of cognitive impairment
- Documents cognitive deficits
- MMSE is not adequate for mild cognitive impairment
- Does not predict future decline
Montreal Cognitive Assessment (MoCA)

- Brief screening tool
- High sensitivity and specificity for detecting mild cognitive impairment
- Superior prognostic indicator than the MMSE in patients with brain metastases
- Cognitive impairment was detected in 89% of the patients by the MoCA compared with 30% by the MMSE
Mini-Cog

- 5-point test
- three-word recall
- clock drawing test
- screening cognitive impairment in the older population
Delirium

- Acute decline in attention and cognition
- Over a short period of time
- Disturbance of consciousness with reduced ability to focus, sustain or shift attention
Confusion Assessment Method (CAM)

- Four important features of delirium:
  1. acute onset and fluctuating course
  2. inattention
  3. disorganized thinking
  4. altered level of consciousness.
Depression

- Geriatric Depression Scale - tool for screening for depression in older patients
  - With no cognitive impairment
  - In patients with mild to moderate cognitive impairment
- Cancer related fatigue and depression frequently occur together
- Patients reporting fatigue - assessed for depression
Distress

- Hurria and colleagues
- Identified in 41% of patients 65 years or older with cancer
- Poorer physical function was the best predictor of distress

Distress Thermometer (DT)

• Identifies whether patients with cancer have problems in five different categories:

1. practical
2. family
3. emotional
4. spiritual/religious
5. physical
Frailty

- Decreased reserve and resistance to stressors
- Vulnerability to adverse outcomes
- At risk for falling, disability, hospitalization, and death
- Fried Frailty Criteria
  1. unintentional weight loss
  2. self-reported exhaustion
  3. weakness
  4. slow walking speed
  5. low physical activity
Frailty

• Balducci Frailty Criteria

1. dependence in one or more ADLs

2. three or more co-morbid conditions

3. one or more geriatric syndromes
Frailty

- Prospective study
- Balducci Frailty Criteria and the Fried Frailty Criteria
- Elective surgery for colorectal cancer
- Both frailty measures were predictive of OS
- Balducci Criteria were more useful in predicting postoperative complications
Fatigue

- Subjective sense of tiredness related to cancer or cancer treatment

- Advanced cancer – prevalence is greater than 50 to 70%

- Independently associated with chemotherapy, hemoglobin level, pain and depression
Fatigue

Interventions proven valuable:

• Exercise programs
• Stress management
• Sleep therapy
• Psychostimulants
Falls

Risk factors:

- Depression
- Orthostasis
- Impairments in muscle strength
- Cognition
- Vision
- Balance
- Gait
- Use of 4 or more prescriptions
Falls

- Prospective study of 185 patients with advanced cancer
- More than 50% of patients experienced falls
- Incidences of falls - 49% among those 65 years or older

Falls

- Risk of falls increases with each cycle of chemotherapy

- Taxane based chemotherapy - greater risk of falls than those treated with platinum-based chemotherapy

Falls

Recommended interventions:

• Minimizing the number of medications
• Exercise program
• Treating vision impairment
• Manage postural hypotension
• Vitamin D supplementation
• Modifying the home environment
• Providing education and necessary information
Osteoporosis

- Increased risk of fractures
- Appropriate screening – DEXA scan
- Lifestyle interventions
- Therapy
Application of CGA for Patients with Cancer

- Adds substantial information on the functional assessment of older patients with cancer

Women 65 years or older

Stage I-III primary breast cancer

All-cause and breast-cancer-specific death rate at 5 and 10 years

Two times higher in women with 3 or more cancer-specific CGA deficits

• Prospective study of 375 older patients with cancer

• ELCAPA study

• Lower ADL score and malnutrition

• Associated with cancer treatment changes

• Older patients receiving induction chemotherapy for AML

• OS was shorter

• Impaired cognitive and physical function

Chemotherapy

Results of studies cannot be generalized:

– Only a few were >80 y.o.
– Highly selected
– Not representative of the general older population
– Lower dose intensity
Chemotherapy

Pharmacodynamic and pharmacokinetic changes in elderly:

• Reduced repair of DNA damage

• Increased risk of toxicity

• Decreased GFR and volume of distribution

• Intestinal absorption may decrease with age
Chemotherapy

Predicting chemotherapy toxicity:
- Age 72 or older
- Cancer type
- Standard dosing of chemotherapy
- Polypharmacy
- Hgb <11 g/dl
- CrCl <34 ml/min
- Hearing impairment
- One or more falls
- Limited in walking 1 block
- Need for assistance with taking medications
- Decreased social activities

Cardiovascular Toxicity

Anthracycline – increased cardiac toxicity with LVD and CHF

Risk factors for anthracycline-induced CV toxicity:

- History of heart failure or cardiac dysfunction
- Hypertension
- Diabetes
- CAD
- Older age
- Prior treatment with anthracyclines
Cardiovascular Toxicity

Trastuzumab – HER2 receptor antagonist

Risk factors for cardiac dysfunction:

• Older
• Age (50 years or more)
• Lower left ventricular ejection fraction (LVEF)
• Use antihypertensive medications

Renal Toxicity

- GFR decreases with age
- Delayed renal excretion - enhance toxicity of drugs
- Dose adjustment to the measured GFR

Neurotoxicity

Risk factors:
• Age greater than 60 years
• Drug dose and schedule
• Renal and hepatic dysfunction

Management – dose reductions or low dose intensities

Monitoring for cerebellum function, hearing loss, and peripheral neuropathy
Neutropenia

- Major dose limiting toxicity
- Older age is a risk factor for neutropenic infections

Use of hematopoietic growth factors
- Faster recovery
- Shorter hospitalization does not impact OS
Anemia

- Erythropoietin-stimulating agents
- Increased risk of venous thromboembolism and mortality
- Increased risk of tumor progression and shortened survival
- Treatment of anemia specifically related to myelosuppressive chemotherapy without curative intent

Thrombocytopenia

- Recombinant interleukin-11
- Romiplostim
- Eltrombopag
Nausea and Vomiting

CINV

- Serotonin (5-HT3)-receptor antagonists
- Neurokinin-1-receptor antagonists
- Corticosteroids

Older-patients – increased risk of toxicity from antiemetic drugs

QTc prolongation has been reported as a class effect of 5-HT3–receptor antagonists

Used with caution in older patients with cardiovascular complications
Diarrhea

- 5-FU, Irinotecan

Chemotherapy-induced diarrhea can lead to:
- Dose reductions
- Delay in therapy
- Discontinuation of chemotherapy

Treatment:
- Loperamide
- Octreotide

![Figure 1. Pharmacologic Management of Chemotherapy-Induced Diarrhea](image1.png)
Mucositis

- Palifermin (human keratinocyte growth factor)
- Significant reduction of oral mucositis compared to placebo
Insomnia

- Incidence is 3 x higher in patients with cancer
  - 25-69%

- Higher rates of insomnia in patients with:
  - Breast cancer (42-69%)
  - Gynecologic (33-68%)

Lower rates among men with prostate cancer (25-39%).

Insomnia

- Cognitive behavioral therapy (CBT)
- Lifestyle modifications
- Multicomponent interventions:
  - Stimulus control
  - Sleep restriction
  - Cognitive therapy
  - Sleep hygiene
  - Fatigue management
Adherance to Therapy

- Older adults are at an increased risk for non-adherence:
  - Cognitive impairment
  - Increased number of comorbid conditions
  - Polypharmacy
  - Increased likelihood of drug interactions
  - Limited insurance coverage
  - Social isolation
  - Inadequate social support
Disease-specific Issues

- Breast
- CNS
- Gastrointestinal
- Genitourinary
- Lung
- Melanoma
- Hematologic malignancies
Breast Cancer

- Breast cancer in older women are associated with a more favorable tumor biology due to high prevalence of hormone receptor, HER2 negative tumors
- Older women are managed with less aggressively treatment and higher mortality rates
- RT – local recurrence rates was 1.3% in women assigned to whole breast radiation therapy and 4.1% to those assigned to no RT post lumpectomy
Breast Cancer

• Age associated benefit of adjuvant chemotherapy has been more controversial

• CALGB study – adjuvant chemotherapy in elderly

• 3 year RFS and OS were higher among patients receiving adjuvant chemotherapy

• The benefit was more pronounced in patients with triple negative tumors
• Older women with advanced or metastatic breast cancer also derived similar benefits from first line chemotherapy compared to younger counterparts.

• In a phase III trial, the combination of trastuzumab, pertuzumab and docetaxel resulted in superior PFS compared to trastuzumab, docetaxel and placebo.

• The median PFS was 21 months in the pertuzumab arm vs 10 months in the placebo arm.

CNS Cancer

- Surgery is the primary treatment for patients with GBM or anaplastic astrocytoma.

- Available evidence suggests that gross total resection is associated with greater OS in patients 70 years and older.

- Surgery followed by RT in combination with concurrent and adjuvant temodar is the standard treatment.
CNS Cancer

• Reports from a recent phase III trial confirmed the addition of concurrent and adjuvant temodar is well tolerated and significantly improves OS and PFS in older patients with good performance status.

• The medians OS and PFS for patients who received RT with concurrent and adjuvant temozolamide were 9.3 and 5.3 months respectively versus 7.6 and 3.9 months for those who were treated with RT alone.
Gastrointestinal Cancer

- Age alone should not be a contraindication for curative surgery in older patients with early-stage and resectable cancer.

- In the adjuvant setting, older patients derive similar benefit from 5-FU based chemotherapy as younger patients.

- For patients 75 years and older with stage III colon cancer, a recent retrospective analysis suggest that oxaliplatin containing regimens may offer an incremental survival benefit.
Gastrointestinal Cancer

- For patients with metastatic disease, 5FU based palliative chemotherapy resulted in equal OS and PFS in older and younger patients with metastatic colorectal cancer.

- In the OPTIMOX1 study, oxaliplatin based chemotherapy stop and go approach may be desirable for older patients with metastatic disease to minimize toxicities.
Genitourinary Cancer

- Radical cystectomy and pelvic LN dissection is the standard treatment for patients with muscle invasive bladder cancer.

- OS was significantly higher in the radical cystectomy arm than RT alone for patients 70 to 79 years (33 months vs 19 months).

- In a randomized study that compared neoadjuvant chemotherapy plus cystectomy vs cystectomy alone, the addition of neoadjuvant chemotherapy resulted in improved survival among patients with locally advanced cancer.
Lung Cancer

- Older patients with completely resected NSCLC derive similar benefits of adjuvant chemotherapy compared to younger counterparts.

- A pooled analysis of 4,000 patients from five trials of five adjuvant cisplatin-based chemotherapy showed that older patients had a similar survival benefits compared to younger counterparts without significant toxicity.
Lung Cancer

- Concurrent chemoRT have disease control and survival rates comparable to that of younger patients.

- Toxicity such as pneumonitis, esophagitis, myelosuppression were more pronounced especially in poor performance status.

- More recently, a phase III trial, Atagi et al reported similar survival benefit in older patients in locally advanced lung cancer.

- At a median follow up of 19 months, the median OS was 22 vs 16 months.

Melanoma

• Melanoma in older patients is characterized by the presence of thicker and more ulcerated tumors compared to younger patients and is often diagnosed at a later stage.

• Surgical excision is the primary treatment.

• Adjuvant RT may be considered to improve local control.
Melanoma

- Data from clinical studies evaluating recently approved targeted therapies suggest that older patients derive similar benefit compared to younger patients.

- Systemic therapy with novel agents (ipilimumab, nivolumab, pembrolizumab, vemurafenib, dabrafenib, trametinib,) is now considered the standard of care for advanced, unresectable or metastatic melanoma.
AML

- AML in older patients is associated with a poor prognosis.

- In older patients 65 years or older, anthracycline-based induction chemotherapy regimens have resulted in CR rates ranging from 39% to 63%, median OS and DFS have remained poor (7-12 months).

- Standard induction chemotherapy is associated with a 10% to 20% risk of death in patients older than 56 years.

- Despite these poor outcomes, standard intensive therapy has been shown to improve long term survival compared with palliative care.

OS by age for patients with favorable risk cytogenetics. The median overall survival for patients younger than age 56 (n = 51) and those aged 56 to 65 (n = 10) has not been reached, while the median survival for those older than age 65 (n = 12) was 12 months.
Summary

- Cancer - leading cause of death in women and men aged 60 to 79 years
- Chronologic age - not reliable in estimating life expectancy, functional reserve
- Careful assessment of the old patient
- CGA - utilized to risk of morbidity from cancer in older patients
- Treatment should be individualized