Cancer is the leading cause of death in older adults aged 60 to 79 years. Older patients with good performance status are able to tolerate commonly used treatment modalities as well as younger patients, particularly when adequate supportive care is provided. For older patients who are able to tolerate curative treatment, options include surgery, radiation therapy (RT), chemotherapy, and targeted therapies. RT can be highly effective and well tolerated in carefully selected patients, and advanced age alone should not preclude the use of RT in older patients with cancer. Judicious application of advanced RT techniques that facilitate normal tissue sparing and reduce RT doses to organs at risk are important for all patients, and may help to assuage concerns about the risks of RT in older adults. These NCCN Guidelines Insights focus on the recent updates to the 2016 NCCN Guidelines for Older Adult Oncology specific to the use of RT in the management of older adults with cancer.

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Older Adult Oncology, Version 2.2016

DISEASE-SPECIFIC ISSUES RELATED TO AGE

Breast Cancer*

- Multiple studies have shown that older women often do not receive “standard of care” treatment, and do not do as well as younger women with the same stage of breast cancer.
- Women older than 75 years receive less aggressive treatment and have higher mortality from early-stage breast cancer than younger women.1-3 Biologic as well as chronologic age should be considered in selecting treatments for older women with breast cancer.

Surgery:

- Women who do not undergo axillary lymph node (ALN) dissection, sentinel lymph node (SLN) biopsy, or ALN irradiation may be at increased risk for ipsilateral lymph node recurrence, especially if they fail to undergo standard adjuvant systemic therapy.
- In the absence of definitive data demonstrating superior survival from the performance of ALN dissection,4,6 in patients 65 years or older with no palpable axillary lymph nodes, performance of ALN dissection or SLN dissection may be considered optional for the following patients:
  - patients with particularly favorable tumors
  - patients for whom the selection of adjuvant systemic therapy is unlikely to be affected
  - older patients or for patients with serious comorbid conditions (See NCCN Guidelines for Breast Cancer)

Radiation Therapy:

- In patients 70 years or older, omission of radiation therapy can be considered for patients with stage I estrogen receptor-positive breast cancer who undergo a lumpectomy with negative margins and who are likely to complete 5 years of endocrine therapy. Omission of radiation therapy has been associated with a modest increased risk of local recurrence (4% vs. 1% at 5 years; 10% vs. 2% at 10 years); however, there has been no difference in OS or distant metastatic disease.7,8

Primary Endocrine Therapy:

- At the current time, primary endocrine therapy should be reserved for patients who are not surgical candidates (reduced predicted life expectancy to less than 5 years).9

Adjuvant Therapy:

- A select group of older adults is enrolled in clinical trials. A review of CALGB studies for node-positive breast cancer demonstrated that only 6% (542/6487) of patients enrolled in cooperative group trials were 65 years and older and only 2% (159/6487) of patients were 70 years or older.10
- Older adults (65 years or older) with breast cancer enrolled in cooperative group trials of adjuvant chemotherapy derive similar benefits (disease-free survival and OS) compared to younger patients. However, older patients have an increased risk of side effects and treatment-related mortality.11
- In the adjuvant treatment of breast cancer, single-agent capecitabine is inferior to either cyclophosphamide, methotrexate, and fluorouracil (CMF) or doxorubicin and cyclophosphamide (AC) in patients 65 years or older. Unplanned subset analysis suggested that the greatest difference was seen in women with hormone-receptor-negative tumors.11
- The results of the randomized phase III trial (ELDA) showed that weekly docetaxel did not improve disease-free survival compared to CMF as adjuvant treatment for older women (65–79 years) with early breast cancer. Docetaxel was associated with severe nonhematologic toxicity and worse quality of life.12

NCCN Categories of Evidence and Consensus

Category 1: Based upon high-level evidence, there is uniform NCCN consensus that the intervention is appropriate.

Category 2A: Based upon lower-level evidence, there is uniform NCCN consensus that the intervention is appropriate.

Category 2B: Based upon lower-level evidence, there is NCCN consensus that the intervention is appropriate.

Category 3: Based upon any level of evidence, there is major NCCN disagreement that the intervention is appropriate.

All recommendations are category 2A unless otherwise noted.

Clinical trials: NCCN believes that the best management for any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.

Overview

Cancer is the leading cause of death in women and men aged 60 to 79 years.1 More than 50% of all cancers and more than 70% of cancer-related deaths in the United States occur in patients who are 65 years or older.2 It is estimated that by 2030 approximately 70% of all cancers will be diagnosed in adults aged 65 years or older.3 An aging US population and a greater life expectancy mean that cancer in older adults is becoming an increasingly common problem. Furthermore, older patients with cancer are underrepresented in clinical trials for new cancer therapies.4 Therefore, less evidence-based information exists to guide treatment of these patients. The challenge of managing older patients with cancer is to assess whether the expected benefits of treatment are superior to the risk in a population with decreased life expectancy and decreased tolerance to stress. There are unique issues to consider when caring for an older adult with cancer.
DISEASE-SPECIFIC ISSUES RELATED TO AGE

Metastatic Disease:

- A randomized, double-blind, placebo-controlled phase III study investigating the efficacy and safety of pertuzumab, trastuzumab, and docetaxel compared with placebo, trastuzumab, and docetaxel in patients with HER2-positive first-line metastatic breast cancer showed that the combined use of pertuzumab, trastuzumab, and docetaxel resulted in superior progression-free survival (PFS) in older patients. Patients ≥65 years treated with pertuzumab, trastuzumab, and docetaxel experienced diarrhea, neutropenia, and dysgeusia more frequently compared to patients age 20–64 years treated with placebo, trastuzumab, and docetaxel. Patients ≥65 years (in comparison with those <65 years) were more likely to experience diarrhea, decreased appetite, vomiting, fatigue, asthenia, and dysgeusia. In contrast, older adults were less likely to experience neutropenia and febrile neutropenia; however, older adults were more likely to have dose reductions and a lower number of median cycles of docetaxel, possibly explaining these findings.13

- A recently published population-based retrospective study of patients 66 years and older who were diagnosed with stage I-III breast cancer and have been treated with trastuzumab demonstrate a CHF rate of almost 30%, which is substantially higher than the rate reported in the clinical trials. Among patients treated with trastuzumab, the rate of CHF was associated with weekly administration of trastuzumab, older age, hypertension, anthracycline use, increases in comorbidities (based on the Charlson comorbidity scale), coronary artery disease, and patients who are non-Hispanic black. Patients who did not receive trastuzumab were more likely to receive an anthracycline-based treatment.15

Surveillance:

- Decisions about mammograms for older breast cancer survivors should incorporate discussions with patients about their risk of developing a recurrent or new breast cancer, the potential benefits of mammography in improving outcomes, the potential harms of mammography (including false positives and overdiagnosis/overtreatment), and patients' values and preferences.16

Some key points include:

- Breast cancer survivors continue to have an increased risk of recurrence or new primaries that is higher than the general population (the risk is about 4%–5% over 5 years).

- Regular mammograms may be helpful in finding these cancers early and improving outcomes, but mammograms also have harms, including false positives, unnecessary biopsies, and finding cancers that never would have become clinically significant in a woman's lifetime (overdiagnosis).

- There likely is no benefit to regular mammograms for older women with a life expectancy of less than 5 years. In this group, the harms of mammographic screening among asymptomatic women probably outweigh any potential benefits that the patient might experience.

The biologic characteristics of certain cancers and their responsiveness to therapy are different in older patients compared with their younger counterparts.5 In addition, older patients also have decreased tolerance to anticancer therapy. Nevertheless, advanced age alone should not be the only criteria to preclude effective treatment that could improve quality of life or lead to a survival benefit in older patients.6,7

Surgery, radiation therapy (RT), chemotherapy, and targeted therapies should be considered as treatment options for all older patients who are able to tolerate curative treatment. RT can be offered either in the curative or palliative setting.8,9 Available data from the literature indicate that RT can be highly effective and well tolerated, so that age alone need not be a limiting factor.10–12 Advanced RT techniques (e.g., intensity-modulated RT [IMRT], image-guided RT [IGRT], and stereotactic body RT [SBRT] or stereotactic ablative RT [SABR]) facilitate the delivery of large doses of radiation to small target volumes while limiting the risk of radiation-induced damage to normal surrounding tissues and organs at risk (OAR).13 Judicious application of these techniques may also help assuage concerns about the risks of RT in older adults. Hypofractionated RT may also help improve treatment tolerability by limiting overall treatment time without compromising clinical outcomes in some patients.14

The NCCN Guidelines for Older Adult Oncology address specific issues related to the management of cancer in older adults and provide an approach to decision-making with the application of comprehensive geriatric assessment (CGA). In addition, the NCCN Guidelines for Older Adult Oncology also provide age-specific recommendations for the use of surgery, RT, chemotherapy, and targeted therapies for different cancer subtypes. These NCCN Guidelines Insights focus on recent updates to the 2016 NCCN Guidelines for Older Adult Oncology specific to the use of RT in the management of older adults with cancer.
At the 10-year breast cancer–specific survival rates were 67% and 66%, respectively, and the estimated difference in survival between the groups.

cancer–specific survival, or overall survival (OS) was not different between the groups. The 5-year OS rate was 93.4% in both groups.

no difference in OS between the groups; the 5-year OS rate was 93.4% in both groups. In this study, all patients received adjuvant tamoxifen for 5 years. Results of the recently published PRIME II study led the authors to conclude that because the rate of ipsilateral recurrence is low, omission of whole-breast RT after breast-conserving surgery could be considered for some women aged 65 years or older with early-stage breast cancer. In this study, 1,326 women aged 65 years or older who had undergone breast-conserving surgery for early-stage, low-risk breast cancer (hormone receptor–positive, axillary node-negative, T1–T2 up to 3 cm at the longest dimension, and clear margins; either grade 3 tumors or lymphovascular invasion) and receiving adjuvant endocrine treatment were randomized to whole-breast RT and no further treatment. After median follow-up of 5 years, the ipsilateral recurrence rate was 1.3% in women assigned to whole-breast RT and 4.1% for those assigned no RT (P=.0002), with no difference in OS between the groups; the 5-year OS rate was 93.4% in both groups.

Breast Cancer

RT as a component of breast-conserving therapy after lumpectomy is not always necessary in selected older women with stage I breast cancer. In a study that randomized 636 women (aged ≥70 years) treated with lumpectomy for clinical stage I estrogen receptor–positive breast cancer to either tamoxifen with or without irradiation in women 70 years of age or older with early breast cancer: Long-term follow-up of CALGB 9343. J Clin Oncol. 2013;31:2362-2368.


Walter LC, Schonberg MA. Screening mammography in older women: a review. JAMA 2014;311:1336-1347.

The NCCN Guidelines Panel concluded that omission of RT can be considered in women aged 70 years or older with stage I estrogen receptor–positive breast cancer who undergo a lumpectomy with negative margins and who are likely to complete 5 years of endocrine therapy. Just as in younger patients, it is difficult to be certain that this is a direct effect of the surgical procedure or a result of selection bias.1,2

Adjuvant Therapy:
• Postsurgical radiation alone is effective in improving outcomes in patients older than 70 years with glioblastoma, and shorter course regimens are reasonable to consider. Hypofractionated accelerated course RT (with the goal of completing the treatment in 2–3 weeks) is a reasonable treatment option for older patients. Typical fractionation schedules are 34 Gy/16 fractions or 40.05 Gy/15 fractions.3,4
• For anaplastic astrocytomas and glioblastomas in patients older than 64 years, temozolomide alone is non-inferior to radiation alone. Temozolomide alone produces improved event-free survival over radiation alone in tumors with a methylated promoter for the methylguanine methyltransferase gene (in an unplanned subset analysis).5 In patients with glioblastoma who are older than 70 years, hypofractionated RT alone over two weeks OR temozolomide alone each produce an OS benefit compared to standard fractionated radiation therapy over six weeks. This study also confirms the predictive benefit of MGMT promoter methylation status with temozolomide use.6
• The addition of temozolomide concurrently with radiation therapy followed by at least 6 months of adjuvant temozolomide improves survival in patients between 60 and 70 years of age.7
• Hypofractionated accelerated course RT with concurrent and adjuvant temozolomide is safe in older patients, and may have comparable survival and less toxicity to standard fractionated RT with concurrent and adjuvant temozolomide.8,9 Hypofractionated accelerated course RT with concurrent and adjuvant temozolomide has been shown to be superior to hypofractionated accelerated course of RT alone in a randomized controlled trial of newly diagnosed GBM patients ≥ 65 years of age.10

Recurrent Disease:
• In recurrent glioblastoma, bevacizumab likely improves quality of life (and possibly OS) in patients 55 years and older.11

Central Nervous System Lymphoma:
• Patients older than 60 years with primary central nervous system lymphoma should be treated primarily with chemotherapy, saving radiation for palliative therapy.12,13

Central Nervous System Cancers*

Glioblastoma

Surgery:
• Patients older than 70 years with glioblastoma who are treated surgically with gross total resection achieve a greater OS than those who are treated with lesser resection. Just as in younger patients, it is difficult to be certain that this is a direct effect of the surgical procedure or a result of selection bias.1,2

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Continue
In a randomized trial, \( P < .001 \), in a phase II trial of 71 patients (\( \geq 70 \) years of age) with newly diagnosed GBM treated with short-course RT (40 Gy in 15 fractions over 3 weeks) in combination with temozolomide, the median OS and PFS were 12.4 and 6 months, and the 1-year OS and PFS rates were 58\% and 20\%, respectively.\(^6\) In a retrospective matched-pair analysis of older patients with newly diagnosed GBM treated with RT alone (n=103) or in combination with concurrent and adjuvant temozolomide (n=190), the combined modality treatment prolonged survival in patients older than 70 and 75 years, respectively.\(^7\) In patients older than 70 years, the median survival was 7.5 and 3.2 months, respectively, for patients treated with RT and combined modality treatment (\( P < .0001 \)). In patients older than 75 years, the corresponding median survival was 9.2 and 3.2 months (\( P < .0001 \)), respectively. In a propensity matched analysis of 127 patients (aged \( \geq 65 \) years) treated with temozolomide in combination with standard RT or short-course RT, the median OS (12 vs 12.5 months) and PFS (5.6 vs 6.7 months) were similar for both treatment groups.\(^22\) However, standard RT was associated with a significant increase in grade 2 and 3 neurologic toxicity and higher posttreatment dosing of corticosteroid. Results from another recent retrospective analysis also showed that the addition of temozolomide to standard or short-course RT resulted in similar OS in patients 65 years or older with newly diagnosed GBM.\(^23\)

Postoperative RT alone has also been shown to effectively improve clinical outcomes in older patients with GBM.\(^24,25\) In a randomized trial, older patients with GBM treated with surgery (\( \geq 60 \) years; n=100) were randomized to either standard-course RT (60 Gy in 30 fractions over 6 weeks) or an abbreviated course of RT (40 Gy in 15 fractions over 3 weeks).\(^24\) The median OS was similar for both treatment groups (5.1 months for standard-course RT and 5.6 months for abbreviated-course RT). However, among those who completed RT as planned, more patients who received standard RT

\[ \text{with GBM.}^{20-23} \]

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Older Adult Oncology, Version 2.2016

DISEASE-SPECIFIC ISSUES RELATED TO AGE

Hepatocellular Carcinoma

Liver Resection, Liver Transplantation, and Locoregional Therapy

- Published data (primarily retrospective) demonstrate age-related differences in patterns of care; however, there was no major difference in outcomes between well-selected older adults and younger patients with hepatocellular carcinoma (HCC).1-5
- A few centers have successfully transplanted highly selected patients older than 70 years, but the data are inadequate to make a recommendation regarding liver transplantation in older adults with HCC.1
- Based on retrospective analyses, older patients may benefit from liver resection or transplantation for HCC, but they need to be carefully selected, as OS is lower than for younger patients.6,7,8
- Stereotactic body radiation therapy (SBRT)/stereotactic ablative radiotherapy (SABR) should be considered for older patients, particularly those with comorbidities or compromised performance status, who may not be suitable for liver resection or transplantation. Because it is noninvasive, the successful completion rate of SBRT/SABR is high.9 Toxicity to treatment can be minimized by careful patient selection, appropriate radiation dosing, and optimized dosimetry to meet normal tissue constraints. Ideal patients are those with good liver function (Child Pugh Class A) and limited volume of disease.

Systemic Therapy

In a retrospective analysis of patients with advanced HCC treated with single-agent sorafenib, grade 3 or 4 adverse events and survival outcomes were similar in patients ≥70 and <70 years; however, treatment with sorafenib was associated with increased incidence of grade 3 or 4 neutropenia, malaise, and mucositis in patients ≥70 years.10

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Hepatocellular Carcinoma

Older patients with hepatocellular carcinoma (HCC) may benefit from liver resection or transplantation.29-31 Available evidence (primarily from retrospective studies) has shown no major difference in outcomes between carefully selected older patients and younger patients with HCC.12-16

required a posttreatment increase in corticosteroid dosage (49% vs only 23% of those who received shorter-course RT). In a small randomized study that assessed supportive care alone or in combination with RT (50 Gy in 25 daily fractions) in patients aged 70 years or older (n=85), at a median follow-up of 21 weeks, the median survival was longer for those who received supportive care plus postoperative RT compared with supportive care alone (29 and 17 weeks, respectively).25 RT was not associated with severe adverse events and the results of quality-of-life and cognitive evaluations over time also did not differ significantly between the treatment groups.

The NCCN Guidelines Panel recommends that postoperative hypofractionated accelerated-course RT (with the goal of completing treatment in 2–3 weeks) either alone or in combination with concurrent and adjuvant temozolomide is a reasonable treatment option for patients aged 70 years or older with newly diagnosed GBM. Hypofractionated accelerated-course RT with concurrent and adjuvant temozolomide has been shown to be superior to hypofractionated accelerated-course RT alone in older patients (≥65 years) with newly diagnosed GBM.19 The panel does not recommend withholding temozolomide for older patients with newly diagnosed GBM in the absence of a specific contraindication. MGMT gene promoter methylation status has been identified as a predictive marker for survival benefit in patients treated with temozolomide, which could be useful for the selection of older patients suitable for treatment with temozolomide in combination with RT.26-28
Available evidence (primarily from nonrandomized clinical trials and retrospective analyses) supports the use of SBRT in the management of patients with unresectable or locally advanced HCC. In a large prospective series of 102 patients with locally advanced HCC and Child-Pugh A liver function treated in sequential phase I and II trials, SBRT resulted in a 1-year local control rate of 87% and median survival of 17 months.37 Most of these patients were at high risk with relatively advanced-stage tumors. Limited safety data are available in patients with Child-Pugh B or poorer liver function.38-41 The safety of SBRT for patients with Child-Pugh C cirrhosis has not been established. In a retrospective analysis of 185 patients treated with SBRT at 2 different dose levels (40 Gy in 5 fractions for patients with Child-Pugh A liver function and 35 Gy in 5 fractions for those with Child-Pugh B liver function), the 3-year local control and OS rates were 91% and 70%, respectively, with no significant differences in outcomes between dose levels.41

The panel decided to include a section highlighting the benefit of SBRT for older patients with HCC who may not be able to tolerate liver resection or transplantation and locoregional therapies. The panel recommends that SBRT be considered for those who may not be suitable for liver resection or transplantation due to the presence of comorbidities or compromised performance status. Patients with good liver function (Child-Pugh A) and limited volume of disease are ideal candidates for SBRT, although those with Child-Pugh B cirrhosis can safely be treated with dose modifications and strict dose constraint adherence. Treatment toxicity can be minimized by careful patient selection, appropriate radiation dose, and optimized dosimetry to meet normal tissue constraints.
early stage non–small cell lung cancer (NSCLC). SBRT has recently emerged as an effective treatment option for patients with medically inoperable, early-stage NSCLC, resulting in high rates of local control and OS. The panel reviewed data from retrospective studies and population-based analysis that evaluated the efficacy of SBRT compared with lobectomy in older patients with early-stage NSCLC. A SEER database analysis of 9,093 patients (median age, 75 years) compared the outcomes of lobectomy, sublobar resection, or SABR as a definitive treatment for early-stage, node-negative NSCLC. In the propensity score matching analysis, lobectomy and SABR were associated with similar OS and lung cancer–specific survival, suggesting that SBRT may be a good option among patients with very advanced age and multiple comorbidities. In a multi-institutional retrospective analysis of older patients (≥75 years) treated with SBRT for stage I NSCLC, the outcomes in terms of high tumor control and low toxicity were similar to those reported in younger patients. The results of a pooled analysis of 2 randomized trials (designed to assess the efficacy of SBRT compared with lobectomy for early-stage NSCLC in operable patients, but which closed due to poor accrual) suggest that SBRT could be an alternative option for early-stage NSCLC in patients who are not surgical candidates. In the intent-to-treat analysis of 58 patients randomly assigned to SBRT and surgery, the estimated 3-year OS rate was 95% in the SBRT group compared with 79% in the surgery group (P=.037). The 3-year recurrence-free survival rates were 86% and 80%, respectively (P=.54). Based on these findings, the panel recommends SBRT for patients who are medically inoperable or who decline to have surgery after thoracic surgery evaluation. In older patients with locally advanced NSCLC, combined modality therapy (concurrent chemotherapy with RT given once or twice daily) has resulted in disease control and survival rates similar to those observed in younger patients; however, toxicities (esophagitis, pneumonitis, and
Combined modality therapy is therefore an effective treatment option for selected fit older patients with locally advanced disease; however, careful attention to the management of toxicities is needed.

**Small Cell Lung Cancer**

Combined modality therapy is the recommended treatment for patients with limited-stage disease, whereas chemotherapy alone is the standard treatment option for patients with extensive-stage disease. Prophylactic cranial irradiation (PCI) is effective in decreasing the incidence of cerebral metastases in patients with SCLC (limited and extensive stage) responding to initial chemotherapy. A recent report from a pooled analysis of 4 prospective trials showed that PCI was also associated with significant improvement in survival among older patients (aged ≥70 years) with SCLC, and the survival advantage was more significant in patients with extensive-stage SCLC. However, PCI is also associated with more adverse events and increased neurotoxicity in older patients compared to younger patients. PCI is not recommended in patients with poor performance status or impaired neurocognitive functioning.

**Prophylactic Cranial Irradiation**

Patients 70 years and older with extensive stage and response to chemotherapy may benefit from prophylactic cranial irradiation (PCI), with improved OS. Other studies have also suggested a benefit from PCI in patients with limited stage and good response after chemotherapy, without differences in risk reduction by age. However, PCI is associated with more adverse events and increased neurotoxicity in older patients compared to younger patients. PCI is not recommended in patients with poor performance status or impaired neurocognitive functioning.


DISEASE-SPECIFIC ISSUES RELATED TO AGE

Prostate Cancer

• For treatment of clinically localized or locally advanced prostate cancer, see the NCCN Guidelines for Prostate Cancer.

• In men of advanced age with high-risk prostate cancer and moderate-to-severe comorbidity, shorter course (4–6 months) of androgen deprivation therapy (ADT) with RT can be considered over longer course (28–36 months).

• There are no significant age-related differences in docetaxel efficacy in patients with castration-recurrent prostate cancer. Every-3-week dosing remains the preferred method for fit older patients who should be monitored closely for toxicity. Growth factor support should be considered in patients 65 years or older to decrease the risk of neutropenic complications.3,5,6 See the NCCN Guidelines for Myeloid Growth Factors.

• There are no age-related differences in cabazitaxel efficacy in patients with castration-recurrent prostate cancer. Growth factor support is strongly recommended in patients 65 years or older to decrease the risk of neutropenic complications in older patients.6,7 See the NCCN Guidelines for Myeloid Growth Factors.

• ADT is associated with an increased risk of fracture. Attention to bone health is warranted.10 ADT significantly decreases muscle mass, and treatment-related sarcopenia appears to contribute to frailty and increased risk of falls in older men.11,12 See the NCCN Guidelines for Prostate Cancer.

• In older adults, newer hormonal therapies can potentially replace or delay the usage of cytotoxic chemotherapy and may be used in patients who would otherwise be ineligible for chemotherapy.

• There are no significant age-related differences in docetaxel efficacy in patients with castration-recurrent prostate cancer. Every-3-week dosing remains the preferred method for fit older patients who should be monitored closely for toxicity. Growth factor support should be considered in patients 65 years or older to decrease the risk of neutropenic complications.3,5,6 See the NCCN Guidelines for Myeloid Growth Factors.

• ADT is associated with an increased risk of fracture. Attention to bone health is warranted.10 ADT significantly decreases muscle mass, and treatment-related sarcopenia appears to contribute to frailty and increased risk of falls in older men.11,12 See the NCCN Guidelines for Prostate Cancer.

• In older adults, newer hormonal therapies can potentially replace or delay the usage of cytotoxic chemotherapy and may be used in patients who would otherwise be ineligible for chemotherapy.


NCCN Recommendations

The decision to offer RT to older patients with cancer should be based on the following factors: (1) evaluation of the benefits and risks associated with RT; (2) careful consideration of the patient’s underlying functional reserve; and (3) an understanding of the differences in the biology of cancers and their responsiveness to therapy in this patient population. Treatment should be individualized based on the nature of the disease and the performance status of the patient.

• Omission of RT (after lumpectomy with negative margins) can be considered for selected older women with stage I estrogen receptor–positive breast cancer who are likely to complete 5 years of endocrine therapy.

risk prostate cancer. However, the significant side effects of long-term ADT (increased risk of fracture due to osteoporosis, glucose intolerance, and thromboembolic events) are of particular concern in older men, who often present with multiple comorbidities.50-52 The efficacy of short-course ADT (4–6 months) in combination with RT for locally advanced prostate cancer has also been demonstrated in randomized clinical trials.53,56 In one randomized trial (that also assessed the interaction between the level of comorbidity and treatment), the survival benefit associated with the addition of 6 months of ADT to RT was restricted only to men without moderate or severe comorbidity.53 A report from another study also suggests that a 6-month course of ADT produces long-term testosterone suppression, which may provide the cancer-specific survival benefit observed with long-term hormonal therapy in men of advanced age.37

Based on these findings, the panel concluded that for men of advanced age with high-risk prostate cancer and moderate-to-severe comorbidity, a shorter course (4–6 months) of ADT with RT can be considered over a longer course (28–36 months).
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- Hypofractionated accelerated-course RT (either alone or in combination with concurrent and adjuvant temozolomide) is a reasonable treatment option for patients aged 70 years or older with newly diagnosed GBM. Hypofractionated accelerated-course RT with concurrent and adjuvant temozolomide is superior to hypofractionated accelerated-course RT alone in older patients (≥65 years) with newly diagnosed GBM.

- SBRT should be considered for older patients with HCC, particularly for those with comorbidities or a compromised performance status, who may not be suitable for liver resection or transplantation and locoregional therapies.

- SBRT is also recommended for early-stage NSCLC in older patients who are medically inoperable or who decline to have surgery after thoracic surgery evaluation.

- Older patients with extensive-stage SCLC and response to chemotherapy may benefit from PCI; however, it should not be used for patients with poor performance status or impaired neuropsychological functioning.

- Shorter-course ADT with RT can be considered over longer-course ADT in older men with high-risk prostate cancer and moderate-to-severe comorbidity.

References


Instructions for Completion
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Posttest Questions
1. Which of the following options are recommended by the NCCN Guidelines for older men with high-risk prostate cancer and moderate-to-severe comorbidity?
   a. Long-term ADT and RT
   b. Shorter course ADT with RT
   c. Long-term ADT
   d. Shorter course ADT

2. True or False: Hypofractionated accelerated-course RT (alone or in combination with concurrent and adjuvant temozolomide) is a reasonable treatment option for older patients with newly diagnosed GBM.

3. Which of the following older patients are considered suitable candidates for SBRT?
   a. Older patients with HCC who may not be suitable for liver resection or transplantation and locoregional therapies (due to the presence of comorbidities or compromised performance status)
   b. Older patients with early-stage NSCLC who are medically inoperable or who decline to have surgery
   c. A and B
   d. Older patients with extensive-stage SCLC