Management of Older Women with Early-Stage Breast Cancer

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OVERVIEW

Breast cancer is a disease of aging. The average age at diagnosis is 61, and the majority of deaths occur after age 65. Caring for older women with breast cancer is a major challenge, as many have coexisting illness that can preclude optimal breast cancer treatment and which frequently have greater effect than the breast cancer itself. Older patients with cancer should be screened or have a brief geriatric assessment to detect potentially remediable problems not usually assessed by oncologists (e.g., self-care, falls, social support, nutrition). Older women with early-stage breast cancer should be treated initially with surgery unless they have an exceedingly short life expectancy. Primary endocrine therapy should be considered for patients who have hormone receptor–positive tumors and a very short life expectancy, an acute illness that delays surgery, or tumors that need to be downstaged to be resectable. Sentinel node biopsy should be considered for patients in whom it might affect treatment decisions. Breast irradiation after breast-conserving surgery may be omitted for selected older women, especially for those with hormone receptor–positive early-stage breast cancer that are compliant with adjuvant endocrine therapy. The majority of older women with stage I and II breast cancer have hormone receptor–positive, HER2-negative tumors, and endocrine therapy provides them with optimal systemic treatment. If these patients have life expectancies exceeding at least 5 years, they should be considered for genetic assays to determine the potential value of chemotherapy. Partnering care with geriatricians or primary care physicians trained in geriatrics should be considered for all vulnerable and frail older patients.

SURGICAL MANAGEMENT

In the 1980s, the question regarding surgery in older patients was, “Can we?” Herbman et al showed that older women could tolerate mastectomy and had a substantial long-term survival and concluded the standard treatment—mastectomy at that time—should not be withheld from these patients.5 Today the question is different: “Should we?” In many ways, early-stage breast cancer in older, healthy women should be considered more of an inconvenience than a threat to their lives. The treatment should minimize not only the inconvenience but also the morbidity produced. Although radiation to the breast is well tolerated, it does increase breast pain, fibrosis, and retraction for at least a limited amount of time, as shown in Cancer and Leukemia Group B (CALGB) 9343.6 In many older women with comorbidities, the effect of breast cancer on their quality of life is less than in younger patients because of their limited life expectancy. In these older women especially, the major goal should be limiting treatment to the minimum amount necessary to prevent locoregional recurrence during the patient’s remaining lifetime.

When the older woman presents with early-stage breast cancer, the surgeon must evaluate the size and location of the cancer by physical exam and imaging and then determine the patient’s general health status and life expectancy. For those with severe comorbidities and limited life expectancy, it may be best to avoid surgery all together. If the cancer is hormone-receptor positive, the use of an aromatase inhibitor (AI) or tamoxifen can often control the cancer for the duration of the patient’s life.7 For healthier older women, the decision is be-
tween lumpectomy and mastectomy and between sentinel node biopsy, axillary dissection, or no axillary surgery.

If the surgeon’s assessment suggests that lumpectomy is likely to be successful, this is almost always the best approach, as it limits surgical morbidity and likely provides the best quality of life. In many cases, this is the only surgery required and radiation may not be needed. If lumpectomy does not initially appear possible, and the patient’s disease is hormone receptor positive, the surgeon must decide if preoperative hormone therapy could potentially convert the patient to conservation. If so, this should be offered to the patient, setting the expectation that it may be 6 months or longer before surgery is undertaken. For those who do not have hormone receptor–positive disease or who will not be able to be converted to conservation, immediate mastectomy is appropriate. For these patients, reconstruction should be considered, being mindful of their underlying health. Older women should not be excluded from having reconstruction, and it should not be assumed that all older women want reconstruction. Reconstruction is very much an individual decision based on the patient’s health, lifestyle, and expectations.

The next issue is axillary surgery, a decision that should be based on whether the patient has clinically node-negative or node-positive disease. For those older women with clinically positive axillary nodes who are surgical candidates, axillary dissection is appropriate. Axillary radiation instead of dissection can be considered for those felt not to be surgical candidates. For those who have clinically node-negative disease and who require mastectomy, sentinel node biopsy is appropriate with conversion to axillary dissection if node positive. Older women with low volume axillary disease can likely avoid postmastectomy radiation; hence, dissection may often be the least morbid and most convenient management approach. For those undergoing lumpectomy, sentinel node biopsy is often not needed. It has been shown that for clinical stage I hormone receptor–positive cancers in patients who do not undergo any axillary surgery and do not have radiation, only 3% recur in the axilla at 10 years. For those radiated, almost none will recur in the axilla. For women who have hormone receptor–negative disease or larger tumors or for whom the decision regarding chemotherapy will be determined by the node status, sentinel node biopsy is appropriate, in accordance with the Z11 trial10,11 and AMAROS trial findings.12 Otherwise, sentinel node biopsy can be avoided.

Much hinges on what we consider to be an acceptable level of locoregional recurrence. A current recommendation is that an acceptable locoregional recurrence rate should be 1% or less per year or within 10% at 10 years.13 This is in line with our acceptance of local recurrence for lumpectomy plus radiation in women younger than age 50, for whom the in-breast recurrence rate at 10 years is approximately 10%.14 If this rate is acceptable, then lumpectomy without radiation—with an approximately 9% risk of in-breast recurrence at 10 years—for clinically stage I, hormone receptor–positive breast cancer should be acceptable.6

In summary, surgery in the older patients should be the minimum necessary to keep the risk of locoregional recurrence to an acceptable level and within the life expectancy of the patient. In many women with early-stage breast cancer, lumpectomy plus hormone therapy is all that is needed.

**RADIATION THERAPY**

After lumpectomy, the decision to add radiation therapy for older women needs to be carefully considered. The Early Breast Cancer Trialists’ Collaborative Group (EBCTCG) published an updated analysis using individual patient data from 10,801 patients included in 17 randomized trials of radiation after breast-conserving surgery.15 This publication revealed that the addition of radiation therapy was associated with a highly significant absolute benefit of 15.7% in any first recurrence (local, regional, or distant recurrence) at 10 years (2p < 0.00001). The benefits of radiation therapy varied when adjusted for estrogen receptor status, grade, and age.

The potential benefits of radiation among age groups in the EBCTCG analysis revealed that the absolute benefit of radiation therapy depended on the baseline risk of recurrence: a function of age. With increasing age, the baseline risk of recurrence was lower, leading to a smaller but still significant absolute benefit of radiation overall. In women older than age 70, the baseline risk of recurrence and therefore the benefit derived from radiation was about half—an 8.9% absolute reduction in a 10-year risk of a locoregional or distant recurrence. This analysis was based on chronologic age and included healthy older women as well as those with comorbidities.

This concept of proportional benefits—that the absolute benefit of radiation therapy varies with the underlying risk of recurrence—raises the question of whether radiation therapy following breast-conserving surgery can be safely omitted if the absolute risk is low. This question was directly addressed by four randomized trials of endocrine therapy with radiation therapy or endocrine therapy alone in older women with estrogen receptor–positive breast cancer (Table 1). Each of these trials showed that the addition of radiation therapy to

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**KEY POINTS**

- The goals of treatment of older patients are typically different than for younger patients and should be clearly defined when making treatment recommendations.
- Life expectancy and comorbidities are key factors in treatment decisions.
- Surgical and radiation oncology decisions should focus on optimizing local control while minimizing a negative effect on quality of life.
- Adjuvant chemotherapy should only be considered if it will improve survival more than several percentage points.
- We believe that caring for older patients is best done by a team of experts including oncologists, geriatricians, and other support staff.
endocrine therapy in older women was associated with a small but statistically significant benefit in local control, but that radiation therapy did not improve overall survival or distant disease-free survival. The lack of survival benefit is not a result of less healthy patients being preferentially enrolled in the studies. Of note, a comparison of expected all-cause mortality between the general population and that seen in the CALGB 9343 trial showed that the women enrolled in this trial had better than average life expectancy, even with early-stage breast cancer.9

The National Surgical Adjuvant Breast and Bowel Project B-21 study analyzed the effect of radiation therapy alone, endocrine therapy with tamoxifen, and both treatments in women of all ages with cancers 1 cm or smaller in size; the trial did not include an arm in which patients received neither endocrine nor radiation therapy.16 In this study, 5% of women discontinued tamoxifen or placebo because of side effects, and 11% withdrew for other reasons. Endocrine therapy alone is associated with side effects, and one large study showed that discontinuation of endocrine therapy was more likely for women older than age 65 than for those ages 55 to 65.17

Without a survival or distant disease-free benefit associated with radiation therapy in randomized trials among older women with early-stage breast cancer, the key question is whether a patient is willing to trade the improved local control afforded by radiation with its inconvenience, potential side effects, and cost. Radiation therapy is generally well tolerated in older women18 but can be associated with rare but serious side effects such as secondary malignancies and cardiac toxicity. The risk of radiation-induced malignancy decreases with increasing patient age and is associated with a latency period of usually at least 5 to 20 years.19 Likewise, although the risk of radiation-induced cardiac toxicity is higher among women with pre-existing cardiac risk factors, a majority of cardiac events (i.e., myocardial infarction, coronary revascularization, or death from ischemic heart disease) occur 10 years or more after radiation exposure.20 Moreover, both the risks of secondary malignancies and cardiac toxicity appear to be decreasing with modern breast radiation techniques.19,21 The assessment of life expectancy is critical in determining the potential magnitude of benefit associated with radiation therapy versus the potential for toxicity, a measure not used in randomized trials.

The inconvenience associated with receipt of radiation therapy can be lessened in the older patient with omission of a boost and hypofractionation, which can reduce the daily treatment span by almost one-half. The European Organisation for Research and Treatment of Cancer conducted a randomized trial of 5,318 patients to study the benefit of adding a 16-Gy boost to the lumpectomy site after 50 Gy of whole breast radiation therapy.22 The use of a boost reduced local recurrence at 10 years by 41% at the expense of increased breast fibrosis. However, similar to the pattern revealed in the EBCTCG meta-analysis, when the degree of reduction in local recurrence afforded by the boost was examined within age groups, the absolute magnitude of benefit diminished with increasing age because of a lower baseline risk of recurrence in older women. Women older than age 60 had a 7.3% and 3.8% risk of local recurrence at 10 years without and with the boost, respectively—a difference of 3.5%. This is in contrast to women age 40 and younger in whom the boost reduced the risk of local recurrence from 23.9% to 13.5%, a difference of 10.4%.

In addition to omission of a boost, hypofractionation, which reduces the total number of treatments can decrease the burden associated with receiving radiation therapy. Recently, mature data have revealed that the use of hypofractionation is as effective as conventional treatment schedules. Whelan et al randomly selected 1,234 women with early-stage breast cancer treated with breast-conserving surgery to receive whole breast radiation using a 5-week schedule (200 cGy per fraction for 25 treatments) versus a hypofractionated 3-week schedule (266 cGy per fraction for 16 treatments).23

No difference was seen in the risk of local recurrence at 10 years or in cosmetic outcome. Subset analyses revealed that the efficacy of hypofractionation was similar in both younger and older women. Likewise, the United Kingdom Standardization of breast radiotherapy (START)-B trial randomly assigned 2,215 women to a 5-week schedule (200 cGy per fraction for 25 treatments) versus a hypofractionated 3-week schedule (266 cGy per fraction for 15 treatments).24 At a me-

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**TABLE 1. Randomized Trials of Hormonal Therapy and Breast-Conserving Surgery with or without Radiation Therapy in Older Women**

<table>
<thead>
<tr>
<th>Trial (No. of Patients)</th>
<th>Inclusion Criteria</th>
<th>Locoregional Recurrence without RT</th>
<th>Locoregional Recurrence with RT</th>
<th>p Value</th>
<th>Overall Survival Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALGB9 (636)</td>
<td>Age 70 and older</td>
<td>10% at 10 yr</td>
<td>2% at 10 yr</td>
<td>&lt; 0.001</td>
<td>Not significant</td>
</tr>
<tr>
<td></td>
<td>T1, HR+/unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negative nodes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Princess Margaret59 (749)</td>
<td>Age 50 and older, T1/2, NO (cN0 if older than 65, pN0 if younger than 65), no chemotherapy</td>
<td>17.6% at 8 yr</td>
<td>3.5% at 8 yr</td>
<td>&lt; 0.001</td>
<td>Not significant</td>
</tr>
<tr>
<td>PRIME II40 (1,326)</td>
<td>Age 65 and older, T size up to 3 cm, NO</td>
<td>2.7% at 5 yr</td>
<td>0.6% at 5 yr</td>
<td>0.004</td>
<td>Not significant</td>
</tr>
<tr>
<td>ABCSG41 (869)</td>
<td>Postmenopausal, T size up to 3 cm, HR+, NO, grade 1/2</td>
<td>5.1% at 5 yr</td>
<td>0.4% at 5 yr</td>
<td>&lt; 0.001</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

Abbreviations: RT, radiation therapy; CALGB, Cancer and Leukemia Group B; HR, hormone receptor.
dian follow-up of 9.9 years, there was no significant difference in the likelihood of local recurrence between the two treatment arms. Indeed, the absolute rate of local recurrence was slightly lower (by 1%, \( p = 0.21 \)) and freedom from marked or moderate cosmetic change improved (hazard ratio [HR] 0.77; 95% CI, 0.66 to 0.89) in the hypofractionated arm. Unlike partial breast radiation and intraoperative radiation, which also reduce treatment length, boost omission and hypofractionation do not require additional equipment or training, potentially enabling patients to have fewer radiation visits in all radiation treatment centers.

A question that remains unanswered is whether tumor biology may be more relevant than patient age in determining the risk of local recurrence. A retrospective study of 1,434 patients treated with breast-conserving surgery and radiation therapy at three hospitals used immunohistochemistry and grade to divide the cancers into five tumor subtypes: Luminal A, Luminal B, Luminal-HER2, HER2, and triple negative. The overall risk of local recurrence at 5 years was only 1.6%. However, in addition to patient age, tumor subtype was a highly significant predictor for local recurrence. Among patients older than age 64, the crude risk of local recurrence was under 0.5% for all subtypes, except those with triple-negative cancers where it jumped to 6.9%. An initial report of a randomized study of 769 women older than age 50 with early-stage breast cancer treated with endocrine therapy with or without radiation therapy reported a reduction in the risk of local recurrence with radiation therapy from 13.8% to 5% at a median follow-up of 10 years (\( p < 0.0001 \)). However, interestingly, among a subset of 304 patients in whom molecular subtyping was performed, those with Luminal A cancers did not derive benefit from radiation therapy as the risk of local recurrence was low even without radiation therapy. In these patients with Luminal A disease, there was a 5.5% risk without and 4.9% risk with radiation (\( p = 0.9 \)). In contrast, those patients with Luminal B cancers had a higher baseline risk of local recurrence and a striking improvement in this risk with the addition of radiation therapy: 16.1% with tamoxifen alone and 3.9% with both tamoxifen and radiation (\( p = 0.05 \)). It is likely that the lower likelihood of local recurrence in older patients is not because of age itself but that older patients are more likely to have cancers with more favorable subtypes. Prospective trials that omit radiation in women with low-risk tumor subtypes are currently underway.

Estimation of the individual’s risk of recurrence will improve with further molecular characterization of cancers and life expectancy, and functional age calculations can be used to put this risk into context for an individual patient. In addition, a careful assessment of comorbidity and other potential impediments to receiving radiation therapy, such as being a great distance from a radiation treatment facility, is necessary to balance these burdens associated with treatment with its potential benefits. Although radiation therapy is associated with increased treatment time, it may reduce the likelihood of mastectomy at a later date, when an older patient’s functional status may become further compromised. Therefore, the choice regarding radiation therapy needs to be made by assessing a patient’s preference for treatment outcomes—recurrence-free versus mastectomy-free survival relative to the treatment burden and potential risk of side effects. Future research aimed at enhancing patient comprehension about these tradeoffs will help facilitate informed decision making. In the interim, given the lack of survival benefit seen in randomized trials and small differences in local control, the decision to prescribe routine use of radiation therapy for older patients with low-risk biology or with significant comorbidity should be made on a case-by-case basis.

**ADJUVANT SYSTEMIC THERAPY**

The decision to recommend chemotherapy to an older patient with early-stage breast cancer is complicated and requires knowledge of life expectancy, the risks and benefits of the proposed treatment, and the patient’s and family’s goals for treatment. In general, for healthy older patients with estimated survivals of 10 years or more, state-of-the-art treatments similar to those used for younger patients should be recommended. Although older women have a higher frequency of less aggressive tumors such as hormone receptor-positive, HER2-negative tumors, as many as 25% to 30% of older patients have HER2-positive and triple-negative breast cancers, as well as more aggressive, genetically defined subtypes. We suggest that before making any treatment decisions, whether for endocrine therapy or chemotherapy, the patient’s life expectancy be calculated using readily available online calculators. The ePrognosis calculators are based on patient setting (e.g., community, nursing home, hospital) and estimate survivals from 6 months to up to 10 years; accurate estimates of life expectancy are crucial and take only a minimal amount of time, but it does require asking several questions related to function not usually obtained in the routine history and physical examination. For patients with an average life expectancy of less than 5 years, the value of adjuvant endocrine therapy and certainly chemotherapy is likely to be minimal except in the case of patients with extremely high-risk disease.

For clinical care, breast cancers in older patients can be divided into three subtypes: (1) hormone receptor positive and HER2 negative, the most common subtype accounting for approximately 70% of patients, 2) HER2-positive tumors, and 3) triple-negative tumors—the latter two each accounting for approximately 15% of tumors. In older patients with small hormone receptor-positive tumors, including those with hormone receptor-positive, HER2-positive tumors, endocrine therapy with either AIs or tamoxifen is the mainstay of treatment. Survival benefits are similar for both AIs and tamoxifen but overall risk of relapse is a few percent lower with AIs. The toxicities of both tamoxifen and AIs are both well defined, with arthralgia, myalgia, and bone loss being the major toxicities for AI therapy, and endometrial cancer and venous thromboembolism the major side effects for tamoxifen. In general, AIs may be preferable as initial treatment in most older patients, because unlike tamoxifen, they are not associated with endometrial carcinoma and do not increase...
the need for yearly gynecologic examinations in older women who have not had a hysterectomy. Although arthralgia and myalgia are less likely to be seen in older patients treated with AI therapy, they can result in pain and functional loss and create a cause for discontinuing therapy. It is important to query older patients on either tamoxifen or AIs about their adherence and persistence with endocrine therapy. Numerous studies have shown that lack of compliance with the use of these medications is substantial, with approximately 50% of patients not completing 5 years of therapy.

The absolute added value in improving survival with the addition of chemotherapy to endocrine therapy in older patients with hormone receptor–positive, HER2-negative tumors is highly dependent on the risk of tumor recurrence. In general, the majority of patients with node-negative hormone receptor–positive, HER2-negative tumors will derive little benefit from chemotherapy. The decision to consider chemotherapy in these patients is best made using multigene molecular assays such as the recurrence score or other assays, which can provide prognostic or predictive information.

For patients with positive nodes, chemotherapy is likely to be of small value for those with low recurrence scores and with one to three positive lymph nodes. Those patients with four or more nodes should be considered for chemotherapy if their life expectancy exceeds 5 years. The majority of recurrences for patients with this phenotype are seen after 5 years, even though the hazard rate for recurrence is highest in the first 5 years. Patients with a life expectancy of less than 5 years, irrespective of nodal involvement, are not likely to derive any benefit from chemotherapy if they have hormone receptor–positive, HER2-negative tumors.

For older patients with triple-negative breast cancer and a life expectancy exceeding 5 years (the timeframe in which most of these tumors recur), the major systemic treatment consideration is chemotherapy. Several chemotherapy regimens are appropriate in these patients and can be roughly divided into anthracycline and nonanthracycline treatments. We suggest using online calculators including Adjuvant! Online and Predict to help guide treatment decisions. Similar to our colleagues in the United Kingdom, we believe that chemotherapy should only be considered if there is at least a 3% to 5% improvement in 10-year overall survival and recommended only if survival benefit exceeds 5% at 10 years. Survival benefits of less than 3% are questionable, as the calculators have been verified mostly in younger patients and lack large samples of older patients, especially those treated with more aggressive anthracycline and taxane regimens. A recent study suggested that Adjuvant! Online overestimated the benefits of chemotherapy in older patients. In general, regimens such as doxorubicin and cyclophosphamide or docetaxel and cyclophosphamide are preferred, unless the calculated benefit for anthracycline and taxane regimens are at least several percentage points higher. It has been previously shown that older patients with node-positive breast cancer treated with more aggressive chemotherapy regimens derive similar benefits as younger patients but with greater toxicity.

Anthracycline regimens are associated with increased risks of cardiac toxicity and, more importantly, the development of acute myelogenous leukemia (AML) and myelodysplasia (MDS). Taxane regimens have substantial risks of peripheral neuropathy, a potential toxicity that can dramatically impede function and impair the quality of life of older patients. The risks of cardiac toxicity and AML/MDS for anthracycline compared to nonanthracycline regimens detract from their potential benefits as calculated in online models. It is essential to get the patient’s perspective when offering chemotherapy and to carefully inform patients and families of the potential for major toxicities. Acute and severe grade 3 and 4 toxicities can be reasonably estimated before starting chemotherapy, and presenting these risks may be helpful in the treatment discussions with older patients.

TABLE 2. Recommendations for Adjuvant Systemic Therapy for Patients with Life Expectancies Longer Than 5 Years

<table>
<thead>
<tr>
<th>Tumor Phenotype</th>
<th>Extent of Disease</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormone receptor–positive and HER2 negative</td>
<td>All</td>
<td>Tamoxifen or aromatase inhibitor for most</td>
</tr>
<tr>
<td></td>
<td>Node-negative</td>
<td>Consider genetic-based assay (recurrence score and others) when chemotherapy is a consideration</td>
</tr>
<tr>
<td></td>
<td>1–3 nodes positive</td>
<td>Tamoxifen or aromatase inhibitor</td>
</tr>
<tr>
<td></td>
<td>Four or more nodes</td>
<td>Consider chemotherapy and discuss if greater than 3% survival benefit at 10 years using online calculators</td>
</tr>
<tr>
<td>Triple negative</td>
<td>Small node-negative tumors</td>
<td>Consider chemotherapy if 3% of greater survival at 10 years</td>
</tr>
<tr>
<td></td>
<td>Larger node-negative of node-positive tumors</td>
<td>Consider chemotherapy if 3% of greater survival at 10 years is 3% greater than anthracycline or taxane regimens alone</td>
</tr>
<tr>
<td>HER2 positive</td>
<td>All</td>
<td>Calculate added value of chemotherapy and trastuzumab for patients with low-risk tumors and consider not recommending if survival benefit at 10 years less than 3%</td>
</tr>
</tbody>
</table>
For a few percent gain in survival, it is our experience that many older patients will decline chemotherapy if it is likely to affect their physical function.

Older patients with HER2-positive tumors can benefit greatly from chemotherapy and trastuzumab. Both patients with hormone receptor–positive and hormone receptor–negative tumors benefit, but the greatest absolute benefit is seen in those with a hormone receptor–negative, HER2-positive phenotype—the most aggressive phenotype for patients who do receive adjuvant systemic therapy. Recent data have suggested that a combination of weekly paclitaxel and trastuzumab for patients with stage I, node-negative disease provides outstanding disease control with an estimated relapse-free survival of 98% at 3 years.48 More aggressive regimens should be considered for older patients with higher-risk node-negative (i.e., tumors greater than 2 cm) or node-positive HER2-positive breast cancer, including docetaxel, carboplatin, and trastuzumab, or anthracycline and taxane regimens with trastuzumab—because their overall survival benefits are similar.49 A major concern when offering chemotherapy and trastuzumab to older patients is the risk for cardiac toxicity,50 which is enhanced in anthracycline regimens. Before initiation of chemotherapy, patients should have estimation of left ventricular ejection fractions (LVEF) using either echocardiographic or nuclear medicine methods. Those patients with below-normal LVEF or those with normal cardiac function but other risk factors for heart disease should be referred to a cardiologist for consideration of prophylactic use of beta-blockers and/or angiotensin-converting enzyme inhibitors.51 The use of anti-HER2 directed therapy alone or in addition to endocrine therapy in the adjuvant setting has not been adequately studied. Ongoing trials utilizing ado-trastuzumab emtansine as a single agent are in progress and focused on further minimizing cardiotoxicity while maintaining similar efficacy to current chemotherapy and trastuzumab regimens.52

For patients who present with large primary lesions or extensive locoregional disease but without distant metastases, neoadjuvant therapy can improve chances for breast conservation. For patients with hormone receptor–positive, HER2-negative tumors, neoadjuvant endocrine therapy can be extremely effective, possibly as effective as chemotherapy.53 For those with triple-negative breast cancer and good life expectancy, anthracycline and taxane regimens can be used. For patients with HER2-positive disease, neoadjuvant therapy that includes pertuzumab in addition to trastuzumab provides the best chances for tumor reduction.54,55 A summary of our recommendations for adjuvant systemic therapy is shown in Table 2.

CONCLUSION
Caring for older patients with cancer takes time and in our opinion is best done using a team of interested and informed specialists including surgical radiation and medical oncologists. In addition, other support staff such as counseling, palliative care, nutritional, and physical and occupational therapy are frequently integral to optimizing outcomes. Geriatric assessment can be learned and performed in a short period of time and can identify problems that, if addressed, may improve a patient’s tolerance for treatment, quality of life, and perhaps survival.56,57 The goals of therapy for seriously ill patients age 60 and older suggests that loss of physical or cognitive function is a major treatment-related concern.26 This would likely be of even greater concern for 70- and 80-year-old patients. We believe that estimating life expectancy, performing the geriatric assessment to separate vulnerable from healthy older patients, and then using this information to optimize treatment based on the evidence of randomized trials will result in the best outcomes.

Disclosures of Potential Conflicts of Interest


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