Original Study

A Prospective Comparison of Younger and Older Patients' Preferences for Adjuvant Chemotherapy and Hormonal Therapy in Early Breast Cancer

Victoria C. Hamelinck,[1,2] Esther Bastiaannet,[1,3] Arwen H. Pieterse,[2] Nienke A. de Glas,[1] Johanneke E.A. Portielje,[4] Jos W.S. Merkus,[5] Irma D.M. den Hoed,[6] Cornelis J.H. van de Velde,[1] Gerrit-Jan Liefers,[1] Anne M. Stiggelbout[2]

Abstract

This study prospectively compared the preferences for adjuvant systemic therapy of younger and older patients with early breast cancer. Older patients accepted adjuvant chemotherapy less often than younger patients. No significant difference was found for adjuvant hormonal therapy. The majority of older patients would still accept therapy. Both age groups required similar benefits in disease-free survival to accept therapy.

Background: It is unknown what minimal benefit in disease-free survival older patients with breast cancer require from adjuvant systemic therapy, and if this differs from that required by younger patients. We prospectively examined patients' preferences for adjuvant chemotherapy (aCT) and adjuvant hormonal therapy (aHT), factors related to minimally-required benefit, and patients' self-reported motivations. **Patients and Methods:** Fifty-two younger (40-64 years) and 29 older (≥ 65 years) women with a first primary, invasive tumor were interviewed post-surgery, prior to receiving aCT/aHT recommendation. **Results:** The proportions of younger versus older participants who would accept, refuse, or were undecided about therapy were 92% versus 62%, 4% versus 24%, and 4% versus 14% for aCT, and 92% versus 59%, 8% versus 17%, and 0% versus 24% for aHT. The proportion of older participants who would refuse rather than accept aCT was larger than that of younger participants ($P = .005$). No significant difference was found for aHT ($P = .12$). Younger and older participants' minimally-required benefit, in terms of additional 10-year disease-free survival, to accept aCT (median, 5% vs. 4%; $P = .13$) or aHT (median, 10% vs. 8%; $P = .15$) did not differ. Being single/divorced/widowed (odds ratio [OR], 0.16; $P = .005$), presence of geriatric condition (inability to perform daily activities, incontinence, severe sensory impairment, depression, polypharmacy, difficulties with walking; OR, 0.27; $P = .047$), and having a preference to make the treatment decision either alone or after considering the clinician's opinion (active role; OR, 0.15; $P = .012$) were independently related to requiring larger benefits from aCT. The most frequent motivations for/against therapy included the wish to survive/avoid recurrence, clinician's recommendation, side effects, and treatment duration (only aHT). **Conclusion:** Whereas older participants were less willing to accept aCT than younger participants, no significant difference was found for aHT. However, a majority of older participants would still accept both therapies. Adjuvant systemic therapy should be discussed with eligible patients regardless of age.

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[1]Department of Surgery, Leiden University Medical Center, Leiden, The Netherlands
[2]Department of Medical Decision Making, Leiden University Medical Center, Leiden, The Netherlands
[3]Department of Gerontology and Geriatrics, Leiden University Medical Center, Leiden, The Netherlands
[4]Department of Medical Oncology, Haga Hospital, The Hague, The Netherlands
[5]Department of Surgery, Haga Hospital, The Hague, The Netherlands
[6]Department of Surgery, TweeSteden Hospital, Tilburg, The Netherlands

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Address for correspondence: Anne M. Stiggelbout, PhD, Department of Medical Decision Making, Leiden University Medical Center, P.O. Box 9600, 2300 RC Leiden, The Netherlands
E-mail contact: a.m.stiggelbout@lumc.nl

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Introduction

Breast cancer (BC) is a disease affecting a large proportion of women over 65 years of age. In Western countries, approximately 40% of new cases occur in older women.[1] As the risk of developing BC increases with age and the general population is aging, the number of older patients is expected to rise significantly.[1]

In most cases of early stage (I-II) BC, adjuvant systemic therapy is recommended in addition to primary surgery with or without postoperative radiotherapy. The addition of adjuvant chemotherapy (aCT) or adjuvant hormonal therapy (aHT) can lower the risk of BC relapse and mortality.[2] However, these therapies are associated with short- and long-term side effects, which, in turn, can cause physical, psychological, and social problems.[3] Therefore, the expected benefits need to be carefully weighed against the side effects. With regard to older patients, making the decision for or against systemic therapy is generally difficult. Benefits of adjuvant systemic therapy in older patients, especially those of aCT, are uncertain because of small numbers of older women in trials.[2,4] Moreover, high rates of comorbid conditions and polypharmacy in this patient group pose additional challenges.[4] Consequently, treatment decisions in older patients should incorporate their valuation of potential benefits and side effects of treatment strategies.[5]

So far, data on older patients' preferences for aCT and aHT are limited. We performed a systematic review of patients' preferences,[6] and found that most patients judged small to modest survival benefits sufficient to consider these therapies worthwhile, regardless of the consequences. A limitation of the reviewed studies was that the women surveyed had already been treated or had already received a treatment recommendation, which could have had a strong influence on their reported treatment preferences.[7] Moreover, most patients were young or middle-aged (mean/median age of 36-55 years),[7-12] and none of the studies on aHT included patients aged $\geq$ 65 years.[8,12]

A few studies have retrospectively explored factors that may affect the decisions about adjuvant systemic treatment of older patients with BC.[13-15] These studies involved only patients aged 65 to 70 years and over, making it difficult to determine whether older patients place different values on benefits versus side effects of adjuvant systemic therapy than younger patients. To our knowledge, solely 1 retrospective study examined age differences in factors influencing treatment decisions for aCT and aHT.[16] Of the other existing studies involving patients of all ages, none specifically focused on differences in motivations between younger and older patients.[17-19]

Given the growing incidence of BC in older women, it will become increasingly relevant to establish a more complete picture of treatment preferences in this patient group, and to determine whether their preferences differ from those of younger women. A better understanding of older patients' preferences and the factors that distinctively affect their preferences will assist clinicians in determining the set of treatment options relevant to older patients and in tailoring their information provision better.

The objectives of this prospective study were three-fold. First, to examine whether there are differences in the benefit that younger and older patients minimally require from aCT and aHT to consider it worthwhile. Second, to determine which factors are related to the minimally-required benefit. Lastly, to examine whether motivations for and against therapy differ between younger and older patients.

Patients and Methods

Participants

This study took place at 1 academic and 2 non-academic teaching hospitals in the Netherlands. Between January 2012 and December 2013, women aged $\geq$ 40 years with a primary invasive tumor (clinical T_{1-2}) scheduled to undergo surgery with curative intent, were included. Exclusion criteria were bilateral BC, BRCA 1/2 mutation, history of (non)invasive BC, history of other malignancies (other than nonmelanoma skin cancer or cervical carcinoma in situ) within the past 5 years, insufficient knowledge of the Dutch language, cognitive/mental problems, inability to participate in a telephone interview (eg, hearing impairment), and a diagnosis of metastatic BC after resection. The Medical Ethical Committee of the Leiden University Medical Center and the institutional review boards of the participating hospitals approved the study. All participants provided informed consent.

Procedure

In a telephone interview, we determined participants' minimally-required benefit from aCT and aHT and their motivations for/against both therapies. Eligible participants were approached following their diagnosis, and they received an informed consent form and a self-administered questionnaire on sociodemographic background. After the presurgical consultation and before surgery, consenting patients were handed out a questionnaire about their preferred involvement in decision-making as well as information to prepare for a telephone interview scheduled after their surgery. Participants were asked to read the information right before the interview. Patients usually receive a recommendation for or against adjuvant systemic therapy based on pathologic findings following surgery, during a post-surgical consultation. To rule out that this recommendation could influence the participant's adjuvant treatment preference, the interview was held before that postsurgical consultation. Three trained interviewers conducted the interviews, strictly adhering to a script.

Measures

Minimally-Required Benefit and Motivations for/Against Adjuvant Systemic Therapy. The minimally-required absolute benefit, in terms of additional 10-year disease-free survival, from aCT and aHT was assessed using the probability trade-off method.[20] As part of this method, we developed 2 hypothetical scenarios: no aCT versus aCT, and no aHT versus aHT (see Supplemental Figure 1 in the online version for details). The scenarios were provided to the participant and included information about the treatment strategies and the accompanying health consequences and recurrence risks. During the interview, we read aloud the information, and asked the participant to read along. Next, participants were asked to imagine that their clinician had offered them 2 treatment strategies. We presented a 10% difference in BC recurrence risk at 10 years between no aCT (25 out of 100 women with a recurrence) and aCT