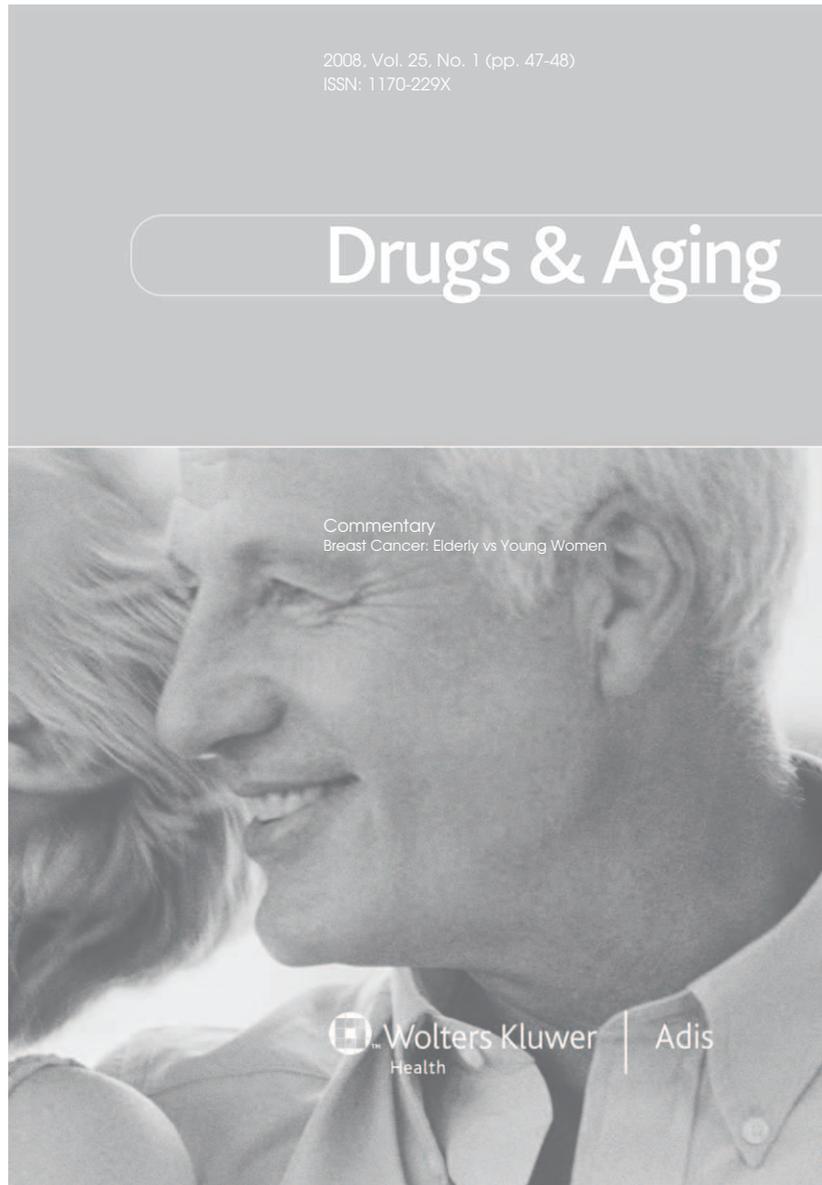


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## Why Do We Believe that Breast Cancer in the Elderly is the Same as Breast Cancer in Young Women?

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The article by Albrand and Terret<sup>[1]</sup> in this issue of *Drugs & Aging* is a wonderful overview of the new approach to breast cancer in the elderly, but does seem to represent an intermediary step. I believe we need to go even a step beyond what is proposed by these authors to obtain maximal benefit for the elderly.

There is an analogy in the field of paediatrics. Before paediatrics became a specialty, it was not uncommon to treat children as miniature adults. Drug doses were extrapolated on the basis of the child's weight, with disastrous results. The field of paediatrics came of age when it was recognized that children are not just miniature adults, but rather distinct physiological entities with a different metabolism, a different response to medications and a need for separate and unique medical care.

We are slowly trying to emulate the paediatricians in our thinking about the elderly. The new approach, as summarized in the article by Albrand and Terret,<sup>[1]</sup> is to move away from simple extrapolations from younger to older patients, and to begin to think in terms of the physiological age of the patient. This new approach suggests that we measure the physiological age of the patient using a battery of instruments developed by geriatricians, and that we also consider co-morbidities in the elderly, in order to determine the life expectancy of the patient. If the life expectancy is 'long', we should treat the patient in the same way that we do every other adult. This approach is a major step forward, one that will help us start limiting over-treatment of elderly patients with severe co-morbidities or short life expectancies. The importance of this decrease in

therapy should not be underestimated. Asking a 40-year-old woman to stop in and have her radiation on her way to work every day for 5 weeks is an inconvenience. Asking an 80-year-old woman to disrupt her routine every day for 5 weeks and accept a ride from a stranger or inconvenience her children is a major imposition. We should not do this unless the treatment has value.

However, while the article by Albrand and Terret<sup>[1]</sup> suggests a new and better approach, and would be a major advance over our current system, does it go far enough? As one of my colleagues recently suggested, we should consider the case of a 45-year-old woman with diabetes mellitus, alcoholism, liver failure and emphysema, whose life expectancy is 5 years. Do we really think a 2 cm estrogen receptor-positive (ER+) breast cancer will behave the same way in this 45-year-old woman as it does in an 80-year-old woman with the same cancer and the same life expectancy? I do not.

The next major advance in the care of the elderly is to consider both the physiological age of the patient and the age-specific characteristics of the cancer. Even in the healthiest 85-year-old woman, a breast cancer will have little in common with a breast cancer in a 45-year-old woman. For this reason, considering the patient's physiological age alone does not go far enough.

Albrand and Terret<sup>[1]</sup> suggest that in the healthy older adult it is important to assess the axillary nodes, and that for women with a life expectancy  $\geq 5$  years, radiation is necessary after a lumpectomy. These are not uncommon viewpoints, but they are not supported by the data. In our Intergroup study

(Radiation Therapy Oncology Group [RTOG], Eastern Cooperative Oncology Group [ECOG] and Cancer And Leukemia Group B [CALGB]) [CALGB protocol 9343],<sup>[2]</sup> we randomized women aged  $\geq 70$  years with a  $\leq 2$  cm ER+ breast cancer to lumpectomy plus tamoxifen and radiation (317 women) or lumpectomy plus tamoxifen alone (319 women). At a median follow-up of 8.2 years, the benefit of radiation has been minimal. Among the women radiated, four experienced recurrence of breast cancer versus 20 in the tamoxifen alone group. This means that only 5% of women derived the benefit of decreased breast recurrence from radiation. However, there was no benefit from radiation in terms of the ultimate rate of breast preservation or in survival.

I interpret these results to mean that for a woman aged  $\geq 70$  years with a  $\leq 2$  cm ER+ breast cancer, tamoxifen (or aromatase inhibitor [AI] therapy) is sufficient treatment. This treatment is equally efficacious to radiation plus tamoxifen (or AI). I would say that in this hypothetical patient, tamoxifen (or AI) alone, radiation alone or radiation plus tamoxifen (or AI) are all fairly equivalent. It seems that giving all three is excessive, so perhaps the best choices are tamoxifen (or AI) or radiation.

As the median life expectancy of women in the Intergroup study<sup>[2]</sup> has not yet been reached at 8.2 years, we can assume the life expectancy to be  $\geq 10$  years for women in this study. Why then do we limit the application of these results to women with a life expectancy of  $\leq 5$  years, as suggested by Albrand and Terret?<sup>[1]</sup> These results apply to all women aged  $\geq 70$  years, regardless of life expectancy.

With respect to axillary evaluation, 200 women in the tamoxifen and radiation group in the Intergroup study<sup>[2]</sup> did not undergo axillary surgery and none developed recurrences in the axilla, compared with 203 women in the tamoxifen alone group who did not undergo axillary surgery, of whom four (2%) developed recurrences in the axilla. Thus, there appears to be little benefit to be derived from axillary surgery in women aged  $\geq 70$  years with ER+ breast cancers in terms of axillary recurrence. On the other hand, if chemotherapy is being considered, a sentinel node biopsy may be of use in clarifying who might be a candidate.

I tend to think of breast cancer treatment in the elderly using the following flow:

- If a mastectomy is needed, do a mastectomy.
- If breast preservation is possible and if the cancer is ER- or  $> 2$  cm, do a sentinel node biopsy (possible axillary dissection) plus radiation.
- If breast preservation is possible and if the cancer is ER+ and  $\leq 2$  cm: (i) if chemotherapy is a possibility, do a sentinel node biopsy; (ii) if chemotherapy is not a possibility, do not do a sentinel node biopsy; (iii) if the patient is  $\geq 70$  years of age, treat with tamoxifen (or AI) or radiation (possibly partial breast irradiation).

Overall, it is time that medical, radiation and surgical oncologists listened to Albrand and Terret.<sup>[1]</sup> We should adopt the techniques of the geriatricians and begin to understand the concepts of physiological as well as chronological age. This will decrease some of the additional therapy we impose on the elderly. The next leap will be when we understand that it is not just the patient who is unique, but that her tumour is unique as well. At that point, the amount of treatment we impose on the elderly will drop dramatically, while the cure rate will remain unchanged.

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## References

1. Albrand G, Terret C. Early breast cancer in the elderly: assessment and management considerations. *Drugs Aging* 2008; 25 (1): 35-45
2. Hughes KS, Schnaper LA, Berry D, et al. Lumpectomy plus tamoxifen with or without irradiation in women 70 years of age or older with early breast cancer: a report of further follow-up. *San Antonio Breast Cancer Symposium, 2006* [online]. Available from URL: [http://www.abstracts2view.com/sabcs06/view.php?nu=SABCS06L\\_433](http://www.abstracts2view.com/sabcs06/view.php?nu=SABCS06L_433) [Accessed 2007 Sep 30]

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