

Why and How Should We Improve Breast Cancer Management in Elderly Women?

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Breast cancer is the most common malignancy among women worldwide, particularly in developed countries. In 2017 in France, it represents 31.8% of newly diagnosed cancers and responsible for 18.2% of cancer mortality in women (1). While it is recognized that age is the first breast cancer risk factor – incidence grows with age – the over-mortality among elderly women due to breast cancer is underestimated. Indeed, the specific mortality associated with breast cancer increases with ageing (2). Moreover, Europe's population is getting older. It is estimated that, between now and 2050, its population over the age of 65 is set to increase from about 20% to about 30% (3). Within this context, it can be predicted that breast cancer, which right now is already a major public health concern, will grow in importance in the future and will be a serious concern for the forthcoming medical practice.

However, an analysis of the international scientific literature points to paradoxical data concerning the link between age and breast cancer evolution (4). On one hand, ageing appears to be associated with increased favorable biological and histological tumor characteristics. On the other hand, clinical practices indicate that elderly patients present a more advanced disease: tumors are larger in size, frequently affecting the lymph nodes and distant organs. How can this apparent contradiction be explained?

With age advancement general physiological modifications are observed, such as immune senescence – deteriorations in the immune system associated with ageing – which leads to decreased protection against cancer. Moreover, the body's tissues cumulate exposure to environmental carcinogens and the DNA repair systems become less effective. In addition, some breast-specific modifications are also noted with ageing. While older age is associated with lower levels of circulating estrogens, in the elderly, breast epithelial cells become more sensitive to estrogens. Furthermore, with advancing age, the mammary gland becomes "fattier" – i.e. the breast tissue is progressively replaced by adipose and conjunctive tissues – leading to increased intra-mammary estrogen production. Such transformation of the breast facilitates clinical and radiological examination. In addition, as age advances, the breast cancer micro-environment changes, perhaps favoring the progression of less aggressive breast cancer cells. The biological mechanisms underlying this apparent paradox are to date the subject of fundamental and translational researches. However, society-related actions can be recommended.

Today, benefit from breast cancer screening is established in most European countries. In the European Union (EU), the upper age limit defining breast cancer screening eligibility varies among different countries, however it never exceeds 75 (except for Monaco which includes women until the age of 80). Hence, unlike in the United States, EU member states' breast cancer screening programs rarely include elderly women. Moreover, participation rates in such programs – be they national or at the individual level – are highly variable, sometimes insufficient and decline with advancing age. This leads to an adverse statement between the low coverage of breast cancer screening and the high incidence among elderly women. It seems that both health professionals and the general population are wronged by the upper age limit for the screening programs and believe that elderly women are at low risk, which is not the case.

The American Cancer Society guidelines recommend in the United States to continue screening as long as life expectancy is at least 10 years, without age limit (5).

In addition, in the EU, clinical breast monitoring in elderly women is underperformed. For example, only half of physicians perform routine breast clinical examination on elderly women (6). This omission may delay the diagnosis, entailing more advanced local lesions and more likely tumor extension to lymph node or metastasis.

Furthermore, it is commonly thought, even within the community of healthcare professionals, that in older patients “cancer progresses slowly” and “it does not kill”. Such lingering dogmas contribute to complicate the problem as they hurdle provision of the necessary medical care. These ill-conceived assertions are easily contradicted by documented scientific evidence. Notably, up until 85 years of age, the leading cause of mortality in elderly women with breast cancer is the cancer itself and not co-morbidity (2). In this respect, it can be affirmed that at least part of the medical community, of patients and of the society in general are either wrongly or not informed at all.

Epidemiological and societal studies indicate that in most European countries, breast cancer in elderly women is not always properly managed. Ideally, physiological age should be considered rather than chronological age.

We also suggest that information campaigns should be held for the public and training on breast clinical examination for physicians and caregivers in general be strengthened. Also, women over the upper age limit for screening programs should be encouraged to undergo individual screening, both clinical and mammographic. Indeed, when a breast cancer is diagnosed early in an elderly woman, its appropriated therapeutic management is usually associated with an excellent prognosis.

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