Importance of radiological follow-up in hormone therapy treated breast cancer patients with high surgical risk.

Poster No.: C-1394
Congress: ECR 2019
Type: Scientific Exhibit
Authors: E. Castro López, M. A. Maestro Durán, J. MOSQUERA OSES, J. R. Varela Romero, D. Dominguez Conde; A Coruña/ES
Keywords: Breast, Mammography, Ultrasound, Biopsy, Treatment effects, Cancer, Outcomes
DOI: 10.26044/ecr2019/C-1394

Any information contained in this pdf file is automatically generated from digital material submitted to EPOS by third parties in the form of scientific presentations. References to any names, marks, products, or services of third parties or hypertext links to third-party sites or information are provided solely as a convenience to you and do not in any way constitute or imply ECR's endorsement, sponsorship or recommendation of the third party, information, product or service. ECR is not responsible for the content of these pages and does not make any representations regarding the content or accuracy of material in this file.

As per copyright regulations, any unauthorised use of the material or parts thereof as well as commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method ist strictly prohibited.

You agree to defend, indemnify, and hold ECR harmless from and against any and all claims, damages, costs, and expenses, including attorneys' fees, arising from or related to your use of these pages.

Please note: Links to movies, ppt slideshows and any other multimedia files are not available in the pdf version of presentations.

www.myESR.org
Aims and objectives

Breast cancer is the most common primary tumour in women. Its incidence increases with age, with almost one half appearing in women older than 65 years old. It is the most important risk factor for most women. As the age increases, so do their comorbidities and surgical risk, as well as their physiological reserves diminishes. This is the reason why sometimes it is not possible to follow the optimal treatment option. However, there is a higher rate of low-risk tumours in older women compared with younger ones.

Treatments often need a multidisciplinary approach involving specialists as surgeons, oncologists, radiotherapists and radiologists[1]. As we know, there are major factors to be considered before making treatment decisions such as life expectancy, psychological stress or functional status.

The first objective of this study was to analyse the efficacy and evolution of tumours in those women treated with hormone therapy, giving letrozole as drug in most cases, for their contraindications to undergo the treatment of choice.

Secondly, we wanted to calculate the survival rate. Related to this, it has to be taken into account that we are studying elderly people, in which it has been proved that breast cancer does not entirely lead to death.
Methods and materials

We conducted a retrospective study in our institution from the year 2010 onwards, in which we included 67 women, with diagnosis of hormone-receptor positive breast cancer and important comorbidities that prevented the use of surgery as treatment so hormone therapy was used as primary treatment.

It has been carried out a radiological follow-up to evaluate the tumour evolution and treatment efficacy. Clinical and radiological follow-up was personalized considering the necessities of each patient. They were being controlled at least every 6 months, with mammography and ultrasonography, to establish if there has been any change in the tumour size or its appearance. This information helped us to decide whether the treatment should remains the same or anything else should be done.

The survival rate in this study was calculated using the Kaplan-Meier estimator.
Results

The study included 67 women between the ages of 55 and 94 years old (mean: 83.8 years; median: 85 years) who were diagnosed with hormone-receptor positive breast cancer (53.1% Luminal A and 46.9% Luminal B).

The diagnosis was made with core needle biopsy guided with sonography in the vast majority of cases. Ductal carcinoma was the most frequent histologic type, as it is in younger women, but it has been seen some characteristics more related to breast cancer in old patients, higher rates of hormone receptor expression and lower rates of HER-2 expression. [2,3]

Neoadjuvant chemotherapy, hormone therapy followed by surgery or surgery alone are the standard treatment in early stages of breast cancer[4]. Age is a not sufficient criteria to exclude any of this treatment options. It is true that in many cases age is associated with high prevalence of comorbidities, reduced tolerance to physiologic stress, reduced social support and frailty but these conditions are not always present.

As it is recommended, each patient has undergone a pre-treatment evaluation, in which we evaluated the factors that could take a role in the toleration of surgery or chemotherapy, which could change the risk-benefit balance [5,6]. There are some tools to evaluate this frailty, such as the one given in the cardiovascular health study index or the comprehensive geriatric assessment in cancer patients (CGS), but there is not a standard.

When, after the evaluation, surgery and chemotherapy were thought to be riskier than beneficial, primary endocrine therapy was the best alternative. Additionally, patients that present low recurrence risk [7] can benefit from the use of this kind of treatment. This can be due to the subtype of breast cancer they have or their age.

Patients have been undergoing hormone therapy as an alternative primary treatment. Letrozole was the most used treatment (41/67: 61.2%), followed by tamoxifen (12/67: 18%), anastrozole (11/67: 16.3%) and exemestane (3/67: 4.5%). Aromatase inhibitors were more often given than tamoxifen in older women because of its benefit in adjuvant setting. There is a higher risk of bone fracture and cardiovascular risk when taking aromatase inhibitors, so we avoided them when heart or bone disease were known. [8,9]
All women have been mammographically and ultrasonographically controlled, at least every 6 months. The follow-up lasted an average of 2.75 years, with a maximum of 8.9 years.

In this period of time, 42 patients experienced shrinkage of their tumour size, being this shrinkage more that 50 % in 24 of them. In Figure 1 we can see the evolution of one of this patients during the follow-up, being a the mammogram at the diagnosis, b the one after 12 and c after 18 months of treatment with hormone therapy treatment. We can see the disappearance of the tumor at 24 months.

6 were stable from a radiological point of view, as seen in Figure 2 a case with the mammograms at the diagnosis (a), after 12 (b) and 24 (c) months, where we can see that the tumour has remained without change.

Tumour growth only occurred in 9 women. Additional treatment, such as surgery or radiotherapy, was only necessary in 7 of our patients. Pharmacotherapy was changed in 4 cases, not because of bad radiological tumour evolution but for intolerance to the initial drug. In Figure 3we have the case of one of our patients that required surgery as we see in the mammograms and sonography, the tumour was not controlled with hormone therapy and it kept growing, being b and c te studies after 12 and 18 months, so surgery was decided.

Survival analysis was also considered, surveying it with help of the Kaplan Meier estimator (Figure 4). Considering all cases, the rate of survival after a year of follow-up using hormone therapy as treatment was 98,4%, at two years 96 % and after five years was around 70%.

If the cases were sorted according to the pathology results, we have 56 cases of infiltrative ductal cancer and 11 of other types of breast cancer, including the lobular infiltrating kind. From the initial group of 67 patients, 56 are still alive nowadays. The youngest woman of the nine deceased, was 79 years old, all others were above the life expectancy in our country (82 years for women) and just two of them have had experienced tumour progression.

Considering our study, we have to take into account that the value of survival estimation can be not totally accurate as we are studying people of age that could not or would not be subject to surgery as well as it is proven that breast cancer in this sort of patients does not entirely lead to death [2].
Images for this section:

**Fig. 1**

© Radiology, Complexo Hospitalario Universitario A Coruña (CHUAC) - A Coruña/ES

**Fig. 2**

© Radiology, Complexo Hospitalario Universitario A Coruña (CHUAC) - A Coruña/ES
Fig. 4: The Kaplan Meier estimator of the population of our study

© Radiology, Complexo Hospitalario Universitario A Coruña (CHUAC) - A Coruña/ES
Conclusion

This study has shown that hormone therapy is a good alternative to take into account when undergoing surgical treatment is not possible.

Endocrine therapy is recommended for most women with hormone receptor-positive breast cancer [10], and can play a key role in patients who cannot be subject to surgery alternative, as was the case in our study.

With the use of hormone therapy and a tight radiological follow-up, the possibilities of hormone therapy can be maximized with the utmost benefit.
Personal information

Presenter: Diego Dominguez Conde

University Hospital of A Coruña - Department of Radiology

As Xubias

CP 15006

A Coruña, Spain

e-mail: didoco2006@hotmail.com
References


