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Original research

Management of breast cancer in elderly patients

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ABSTRACT

Even if there is not a general consensus, we consider *elderly* patients of 65 years old or more. The degree of aging is extremely variable so that we can individuate different groups of patients that are different one from the other in relation with Performance Status, the presence of other pathology, and of eventual social discomfort.

Breast Cancer is the most common Tumor in elderly woman and it represent the first death cause The 45% of Breast Cancer arise in women more than 65 years old and the 33% arise in women of more than 70 years old. Despite these data elderly women are often excluded from screening schedules, moreover despite there is no evidence that breast cancer is less aggressive in elderly patient they are generally non considered in trial studies so that they are under treated if compared to young patients that's why we cannot observe a decrease of mortality such as in younger patients Relative survival between 5 and 10 years in patients more than 75 years old it's lesser than the one observed in younger patients (between 45 and 70 years old) maybe that's because of the incongruity in the access to sanitary structures and because of the social and economic discomfort.

When we speak about Breast Cancer we cannot be able to leave a multidisciplinary approach out of consideration. Patient's evaluation must be done by a group of dedicated specialists that are: Radiologist, Pathologist, Surgeon, Radiotherapist and Oncologist. The team need to analyze all data to improve treatment and obtain a better cosmetic result [4]. Complex cases must be discussed collectively before surgery to obtain the best therapeutic strategy. Moreover it's strictly important patient's involvement in treatment selection. Consensus is mandatory and it can be obtained only if the patient is well informed about treatment phases, adverse effects, and results.

Breast Cancer has reached in Italy such an incidence that can be considered a very social illness and it represents the first death cause by cancer in women [1]. The introduction of screening schedules [2] increased diagnosis of early stage breast cancer, this added to therapeutic schedules that are more and more effective improved survival [2].

When we speak about Breast Cancer we cannot be able to leave a multidisciplinary approach out of consideration. Patient's evaluation must be done by a group of dedicated specialists that are: Radiologist, Pathologist, Surgeon, Radiotherapist and Oncologist. The team need to analyze all data to improve treatment and obtain a better cosmetic result [2]. Complex cases must be discussed collectively before surgery to obtain the best therapeutic strategy. Moreover it's strictly important patient's involvement in treatment selection. Consensus is mandatory and it can be obtained only if the patient is well informed about treatment phases, adverse effects, and results.

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1. General approach

In the order to select the most suitable treatment for each patient, we need to know these Data:

1.1. Clinical data

- Tumor location
- Tumor size
- Connection to the nipple
- Connection to the skin and the thorax wall
- Stage of regional nodes

1.2. Instrumental data

Mammography allows neoplasm identification and the definition of neoplasm size and characteristics giving useful knowledge for treatment identification.

If preserving surgery is considered, we need to know these radiological data (referred to bilateral mammography) [3].

- Tumor location
- Tumor size
- Presence of multiple Tumors focuses in the same quadrant or in different ones
- Tumor contact with the nipple
- Tumor contact with the Thorax wall
- Distribution and location of micro-calcifications and dimension of interested area.

Mammographic results must be described according to BiRRADS nomenclature [4] and combined with other instrumental examination executed.

Ultrasounds is complementary to mammography and must be executed in patients whose breast is particularly dense in the order to define with accuracy useful data for a feasible treatment [5].

Magnetic Resonance, according to Radiologist indication, could be useful when Mammography and Ultrasounds can't be easily interpreted [6].

1.3. Surgical data

Preserving Surgery is the suggested treatment approach for small size breast cancer although we have to consider some particular situations:

- Patients with two or more neoplasms located in different quadrants or with spread micro-calcifications can't be submitted to preserving surgery. When there is the presence of different nodules in the same quadrant we have to analyze each case to find the right indication.
- Preserving surgery can be considered in relation with breast volume if there is a 4–5 cm tumor mass.
- Preserving surgery is not suggested when there are big size tumors in small breasts because cosmetic result could be not satisfactory [7].
- If positive resection margins persist after wide excision, re-resection is suggested.

  I's strictly important to give a complete description of intervention. It must be specified:

  ✓ Which kind of intervention has been executed, with deepened data about surgical rehash [8].

  ✓ Presence of metal clips to the sides of tumor bed that can help the individuation of tumor bed itself when a radiation therapy boost is needed in order to establish beams direction [10,11]. Clips are helpful above all when patient is submitted to surgical remodeling.

  ✓ Kind of nodal dissection.

  When **Radical Mastectomy** is the surgical option we need to know:

  - Which kind of mastectomy has been executed
  - Which kind of nodal dissection has been executed
  - Neoplasm connection to the skin, chest wall, pectoral muscle
  - Potential presence of metal clips
  - Post-surgical complications
  - Kind of reconstruction (if executed)

Alternative therapeutic approach might consist in injecting the patients with autologous endothelial progenitor cells, to accelerate tissue revascularization and prevent a surgical approach [9–13]. Unfortunately, the therapeutic feasibility of such a strategy would require the elucidation of the biological properties of these rathe promising cells, which is far from being fully achieved.

1.4. Histological data

Macroscopical data:

- Tumor size and surgical cut size
- Connection between tumor and surgical margins
- Neoplasm connection to the skin, chest wall, pectoral muscle

Microscopical and laboratory data:

- Histological kind and histological grade
- State of Hormonal Receptors
- Multi focal disease
- Excision margin involvement, grade of involvement itself
- Presence and extension of IN SITU DESEASE
- Lymphatic and/or Vascular involvement
- Number and level of resected nodes, number of positive nodes and extra capsular extension [11,12]
- HER-2 expression
- Reproducing activity (Ki67%, MIB-1).

All these data seems to be very important above all to get the right eventual post-surgical treatment that is Radiotherapy treatment to achieve local control of disease and Chemotherapy to reach general control.

2. Radiotherapy indication

2.1. Invasive carcinoma

Invasive Breast Cancer represent the 70–75% of all breast tumors and ductal Carcinoma is the 70–80% of all histological presentations. In more than 80% of patients with breast cancer Preserving surgery is feasible.

Whole Breast Irradiation is the gold standard in **post-surgical preserving treatment** in fact it decrease local recurrence of 75% if compared to surgery alone [14–16]. So that we can say that Post-operative Irradiation is mandatory when conservative surgery has been executed-

There are some specific conditions in which **post Mastectomy** Radiotherapy treatment is needed:

- Tumor size is more than 5 cm independently by node stage [17–23]