Results of a multi-centre survey concerning the treatment of hormone-dependent breast cancer in Poland in 2009–2013

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ABSTRACT

In order to present a reliable picture of hormone-dependent breast cancer treatment in Poland, an on-line survey has been conducted in 19 oncology centres. As a result, data on the treatment of 486 patients have been obtained (405 of them initially presenting with stage I–III of disease advancement, and 81 representing stage IV). It has been concluded that in the majority of cases the treatment in question involves combined therapy, including chemotherapy, hormonal therapy, targeted molecular therapy, radiotherapy, and surgical methods with reference to the group of patients subjected to radical treatment.

KEY WORDS: breast cancer, hormonal therapy

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INTRODUCTION

Breast cancer is the most frequent malignant tumour in Polish female patients. Over the recent years, the number of newly diagnosed cases has exceeded that of 16 500 per year (with the standardized incidence coefficient of around 52/100 000), having risen by around 10 000 in the past two decades. Most of the cases involve the diagnosis of hormone-dependent breast cancer. In accordance with the molecular classification, it is divided into two basic subgroups: Luminal A and Luminal B type, the latter of which is associated with poorer prognosis and a more dynamic course of disease. From the point of view of an oncologist, hormone-dependent cancers have always been a subject matter of countless discussions as to the possible methods of systemic treatment. Patients diagnosed with the Luminal A biological type are believed not to benefit greatly from chemotherapy. On the other hand, patients diagnosed with the Luminal B type constitute a more heterogeneous group (HER-2-positive and HER-2-negative), including more cases of primary and secondary resistance to hormone therapy.

METHODS

An on-line survey has been prepared in order to determine the treatment methods offered to the hormone-dependent breast cancer patients in Polish oncology centres. The survey was prepared under the supervision of the Polish Society of Clinical Oncology. The CEGEDIM company was responsible for carrying out the survey in Polish oncology units.

19 oncology centres were involved in the survey. Oncologists who treat breast cancer patients as part of their daily practice were invited to complete the survey. Each of the doctors who expressed their consent to participate in the study received 10–30 questionnaires to fill in.

The questionnaires were filled in retrospectively, based on the available on-site medical records pertaining to breast cancer patients who were diagnosed with the disease in 2009. Another inclusion criterion was the confirmation of the cancer being hormone-dependent on the basis of the oestrogen receptor test results. No additional conditions were set as regards the stage of the disease, administered therapy, patient age, etc. The inquiry forms were kept entirely anonymous. The follow-up period ended in November 2013.

The initial plan provided for obtaining 500 filled in questionnaires. However, upon preliminary review of the data, only 486 questionnaires were used for further analysis, as 14 of them failed to meet the pre-defined criteria.

The aim of the analysis was to obtain reliable data regarding the management algorithms offered to the hormone-dependent breast cancer patients in Poland.

RESULTS

The above mentioned retrospective survey involved a group of 486 hormone-dependent breast cancer patients. The breast cancer diagnosis had been made on the basis of a cytology or histopathology test within the following timeframe: 2 January 2009 and 15 December 2009. In 411 patients the CS I–IIIB breast cancer was diagnosed, and in 81 of them it was the CS IV stage.

94 patients received systemic preoperative treatment. A detailed description of that group of patients has been presented in Table 1.

TABLE 1.
Neoadjuvant treatment – group characteristic.

Feature	n	% (100% = 94)
Number of patients treated systemically prior to the surgery	94	
Age range	38–81	
Mean age	59 years	
Stage of clinical advancement:		
CS I	4	4%
CS II	18	19%
CS III	72	77%
Cancer histological type:		
Ductal cancer (now NST)	80	85%
Lobular cancer	7	7.5%
Other	7	7.5%
Grade of malignancy:		
G1	5	5%
G2	45	48%
G3	27	29%
Not determined	17	18%
Ki67:		
< 15%	4	4%
> 15%	15	16%
Not determined	75	80%
HER2 receptor status (immunohistochemical):		
0	24	25%
1+	37	39%
2+ (FISH performed in 18, with positive results in 4)	19	21%
3+	14	15%

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81 patients were subject to chemotherapy, and 13 received hormone therapy (4 – tamoxifen, 9 – aromatase inhibitor). All of the patients in that subgroup were later treated surgically (67 – mastectomy, 27 – breast-conserving surgery).

All of the patients who were subject to systemic treatment also received radiotherapy as a part of adjuvant treatment.

Following the surgery, chemotherapy was continued in 36 patients, 14 patients received trastuzumab (in accordance with the reimbursement guidelines), and all of the patients received postoperative hormone therapy. In 22 patients treatment failure was observed during the 4-year follow-up period. In 15 of them there were bone metastases, 6 suffered from lung metastases, in 10 of them liver metastases developed, in 3 patients there were skin metastases, and 1 patient was diagnosed with cancer of the contralateral breast (26 months following the surgery).

Data concerning the treatment administered prior to surgery have been presented in Table 2.

TABLE 2.
Neoadjuvant treatment.

Feature	n	%
Chemotherapy: AT AC FAC FEC Another regimen	81 49 14 11 3 4	86% 52% 15% 12% 3% 4%
Number of administered presurgical chemotherapy cycles: 1–3 4 5 6 8 and more	 5 24 4 46 2	 5% 26% 4% 49% 2%
Response to chemotherapy: pCR CR (but not pCR) PR SD PD	 6 17 52 4 2	 6% 18% 56% 4% 2%
Hormone therapy: Tamoxifen Aromatase inhibitor	13 4 9	14% 4% 10%
Duration of presurgical hormone therapy: 3 months 4 months and longer	 8 5	 8.5% 5.5%
Response obtained: CR PR SD	 1 11 1	 1% 12% 1%
Surgical treatment performed: Tumorectomy/quadrantectomy + LAX Modified mastectomy	 27 67	 29% 71%
Lymph node metastases confirmed in postoperative material	62	66%
Postoperative radiotherapy	94	100%
Postoperative chemotherapy	36	38%
Trastuzumab adjunctive therapy	14	15%
Postoperative hormone therapy Tamoxifen Aromatase inhibitor Sequence: TAM/AI	94 61 15 9	100% 65% 16% 9%

311 patients were originally qualified for surgery. Breast-conserving therapy was offered to 150 of them, with the remaining 161 undergoing mastectomy. 189 patients had sentinel lymph node biopsy performed, allowing 114 of them to escape lymph node dissection. No axillary lymph node metastases were observed in 202 patients. In 109 of them, the presence of axillary lymph nodes was confirmed, though. A detailed description of that group has been presented in Table 3.

TABLE 3.
Primary surgical treatment – group characteristic.

Feature	n	% (100% = 311)
Number of patients originally qualified for surgery	311	100%
Age range Mean age	41–78 56	
Stage of clinical advancement: CS I CS II CS III	 126 153 32	 40% 49% 11%
Cancer histological type: Ductal cancer (now NST) Lobular cancer Other	 250 44 17	 80% 14.5% 5.5%
Grade of malignancy: G1 G2 G3 Not determined	 58 165 51 37	 19% 53% 16% 12%
Ki67: < 15% > 15% Not determined	 24 11 276	 8% 3.5% 88.5%
HER-2 receptor status (immunohistochemical): 0 1+ 2+ (FISH performed in 18, with positive results in 15) 3+	 137 97 41 36	 44% 31% 13% 12%

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147 patients from the surgery group were qualified for adjuvant chemotherapy, all of the patients received hormone therapy as adjuvant treatment (it was tamoxifen in most of the cases), and trastuzumab was administered to 30 of them. Adjuvant radiotherapy involved 198 of the patients.

Detailed information on the management of the group of patients originally treated with surgery has been presented in Table 4.

TABLE 4.
Primary surgical treatment.

Feature	n	%
Surgical treatment performed:	311	100%
Tumorectomy/quadrantectomy + LAX	150	48%
Modified mastectomy	161	52%
Sentinel Lymph Node Biopsy Procedure	189	61%
pN category:		
pN0	202	65%
pN(+):	109	35%
• 1–3	64	21%
• 4–6	26	8%
• > 6	19	6%
Adjunctive chemotherapy:	147	47%
TAC	9	3%
FAC or FEC	23	7%
AC	72	23%
AC /PCL or AC/DCL	22	7%
FEC100/DCL	15	5%
Other	6	2%
Hormone therapy:	311	100%
Tamoxifen	199	64%
Aromatase inhibitor	55	18%
Goserelin	19	6%
Goserelin + tamoxifen	8	2%
Sequence: tamoxifen/aromatase inhibitor	30	10%
Adjunctive radiotherapy	198	64%
Trastuzumab adjunctive therapy	30	10%

In the analysed group of patients, 114 had to be treated for metastatic disease. Only 33 of them developed metastases during the follow-up period.

113 patients received curative treatment, 75 were treated with chemotherapy as a systemic first-line therapy. In 52 of them it was a chemotherapeutic regimen based on anthracyclines. Hormone therapy as a systemic first-line treatment was offered to 38 of the patients, with most of them qualified for tamoxifen or aromatase inhibitors. During the follow-up period, the patients received a maximum of 4 systemic line of treatment (chiefly chemotherapy). Palliative radiotherapy was offered to 53 of the patients (with radiotherapy targeting mainly the osseous system).

54 patients received bisphosphonates as part of symptomatic treatment, 21 of whom took the orally administered clodronate.

Throughout the entire follow-up period, 6 patients were reported dead, including 4 deaths due to breast cancer progression. In the remaining 2 patients, it was impossible to determine the cause of death. Information on the treatment of metastatic disease has been presented in Table 5.

TABLE 5.
Palliative treatment.

Feature	n	%
Patients treated for metastatic disease	114	100%
Age range	44–82	
Mean age	57	
Metastatic disease at the moment of diagnosis	81	71%
Metastases during follow-up	33	29%
Primary location of metastases:		
Single	39	34%
Multiple	75	66%
Bones	82	72%
Lung	33	29%
Liver	55	48%
Skin	16	14%
Soft tissue and lymph nodes	19	16%
CNS	0	0%
Qualification for palliative treatment	113	99%
Qualification for symptomatic treatment	1	1%
First-line systemic therapy:		
Chemotherapy	75	66%
Hormone therapy	38	34%
First-line chemotherapy:	75	100%
Based on anthracyclines	52	70%
Taxanes	23	30%
First-line hormone therapy:	38	100%
TAM	16	42%
Anastrozole	9	24%
Letrozole	7	18%
Fulvestrant	6	16%
Palliative radiotherapy	53	46%
Bisphosphonates:	54	47%
Clodronate	21	18%
Pamidronate	33	29%
Death:	6	5%
of breast cancer	4	3.5%
of unknown aetiology	2	1.5%

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CONCLUSIONS

Based on the obtained survey results, one can conclude that the treatment of hormone-dependent breast cancer does not give rise to any particular difficulties. What should be emphasised here is the exceptionally small percentage of patients diagnosed with distant metastases over the 4-year follow-up period (only 33 patients from the group of 405 patients who originally underwent radical treatment). Only 4 deaths were reported as resulting from breast cancer dissemination.

All patients benefited from the possibility of hormone therapy at different stages of neoplastic disease, including the presurgical, adjuvant, and metastatic disease treatment.
Nearly one fourth of the patients were qualified for systemic presurgical treatment, with most of them undergoing preoperative chemotherapy. It does not go against the current guidelines, but perhaps some of them would benefit more from hormone therapy. It should also be underlined that in over a half of the patients hormone therapy was administered for a relatively short period of time (up to 3 months), which possibly failed to allow them to achieve the best possible response to treatment.

In the group of the radically treated patients, who were originally qualified for surgery, nearly half of the patients received adjuvant chemotherapy, which is also in line with the binding adjuvant therapy guidelines. All of the patients underwent hormone therapy after the surgery or after the completion of chemotherapy. In the majority of cases the drug of choice was tamoxifen.

The most controversial group described in the survey is undoubtedly the one treated for metastatic breast cancer. Unfortunately, it was only one fourth of the analysed subjects, and additionally the group was highly heterogeneous as to the onset of metastases, and in consequence their follow-up time within the framework of the survey, as well as the location of the lesions. As might have been expected, in most cases the metastases involved the bone (82 patients), and there was no patient in whom CNS was the primary location of metastatic lesions. In the majority of cases (75 patients) multiple metastatic locations were observed at the moment of metastatic disease diagnosis.

There is a clear tendency to qualify palliative patients for chemotherapy (66% in first-line treatment), which is certainly not compliant with the Polish and European guidelines pertaining to that group of patients, and points to a need for further effort made to convince Polish oncologists to select hormone therapy of metastatic breast cancer as a less toxic and better tolerated treatment method.

In summary, one should emphasise that the presented survey is one of the few Polish multi-centre oncology projects, revealing the true picture of the treatment methods applied in Poland.

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