

BCY 2 – Second Breast Cancer in Young Women Conference 4th–5th November 2014 Dublin, Ireland

Breast cancer (BC) in women under 40 years of age is a complex disease which strikes in a phase of life when young women are at the peak of their reproductive years and when family planning, professional career, and partnership have a lot of importance. Furthermore, as young women are more likely to have a risk of a higher grade and stage of the disease, tumor biology at the time of diagnosis and genetic factors play an important role, medical treatment and consultation has to be well adapted to the needs of this population. So far, little is known about the etiology of breast cancer in young women and more research is needed to establish an optimal management of these patients.

The Breast Cancer in Young Women Conference was initiated in 2012 by high-ranking breast cancer specialists from Europe, Israel, and the US to create a platform about novel research results, future research concepts and to give the opportunity of networking and discussion in this so far poorly researched field. Additionally, the *first international consensus guidelines for breast cancer in young women* were developed by international BC specialists, being finally published in June 2014 (Breast 2014;23:209–220).

Initially planned to take place in Tel Aviv, Israel, BCY 2 was changed this year to take place again in Dublin, Ireland because of the political conflicts in the Middle East. The BCY 2 conference was supported and organized by the European School of Oncology (ESO) (www.eso.net). In 9 sessions and 25 talks in total, all ‘hot topics’ around the treatment and diagnosis of young BC patients were covered. International speakers gave an overview of recent results of breast cancer research, newest developments in the treatment of young breast cancer patients and an outlook on the results to be presented in San Antonio in December 2014. During the conference, the 205 participants from 35 different countries heard talks that touched upon tumor biology and pathology, genetics, diagnostics, surgery, systemic therapy, radiotherapy, fertility preservation, and supportive offers.

After the presentation by Bella Kaufmann from the Israel Cancer Association (IL), one of the chairs of the conference, BCY 2 was opened by a field report of a young BC patient. With a very personal report, Nicola Elmer (IE) illustrated this intensive and difficult phase of her life around the BC diagnosis and all her problems during and after systemic therapy, so that a perfect introduction to the conference was given. Ann Partridge (US) continued in another keynote lecture to refer about the growing population of young BC patients, and its relevance for public health

and the importance of improvement of psychosocial and medical care of those patients mainly focusing on the US perspective. She also focused on the unique aspects of young women with BC. They often present an advanced disease because of delays of diagnosis (‘you are too young to have breast cancer’) and a more aggressive tumor biology (e.g. ER negative, high grade, LVI disease, HER2-positive). Genetics, fertility and sexuality concerns as well as body image and the premenopausal situation play an important role in these patients, they need to be understood and supported.

Diagnostic tools were presented in the session by M. Sklair-Levy (IL), who discussed new technologies of breast imaging such as tomosynthesis (a modification of digital mammography to create 3-dimensional data), contrast-enhanced spectral mammography (CESM), automated breast volume scanner and also nuclear breast imaging (positron emission mammography, FDG) which are intended to be implemented in the individual diagnosis of young breast cancer patients.

The session on hereditary and familial breast cancer was well discussed. E. Levy-Lahad (IL) presented data about the right time for genetic testing and discussed issues about rapid genetic testing before initiating any treatment and traditional *BRCA*-testing in the young patient. As genetic testing has a yield of about 25% in the young patient, it affects treatment decisions and has therefore therapeutic impact. The goal of genetic testing might in any case be a *treatment-focused genetic testing* (TFGT), after diagnosis but before surgery. In her talk about local therapy considerations in *BRCA1/2* mutation carriers, Ella Evron (IL) showed the markedly increased risk of *BRCA* carriers of contralateral BC and presented the design of an initiated Israeli multicenter study on the prophylactic contralateral irradiation after breast conserving therapy as a potential option of prevention in high-risk patients and to reduce the rate of bilateral mastectomy. New systemic therapies in hereditary BC were discussed by Judy Garber who presented recent data with a neoadjuvant regimen of platinum in TNBC (pathologic complete remission (pCR) 61%, Breast Cancer Res Treat 2014;147:401–405) as also shown by GEPAR-SIXTO (higher pCR rates after neoadjuvant anthracycline/taxane in TNBC). PARPP inhibitors such as olaparib (Olympia) or niraparib (BRAWO) for 1 year after neo-/adjuvant therapy are currently tested in several protocols as also in combination with platinum (carboplatin/gemcitabine/iniparib) in the PrECOG 0105 scheme.

In the session about local-regional therapy by O. Gentilini (IT), different surgical options for young women with BC and also *BRCA* mutation carriers were discussed, that had become more important in the last years with an increasing demand for counseling ('Jolie effect'). As data about the surgical outcome are still missing, the surgical treatment should in general be the same as in the older patients while in the case of mastectomy immediate reconstruction should be offered.

The first day of BYC 2 closed with a special session of Deborah Fenlon (UK) about nursing in younger women with BC and the importance of the 'being there' for young patients and their unique needs and special nursing offers for these patients.

The second day of the conference was opened by K. Gelmon (US) about aspects of tumor biology. She once more emphasized the higher risk of relapse and worse outcome in younger women with BC and the still poorly understood difference of tumor biology and its therapy in that special population of patients.

In the session of systemic therapies, Sybille Loibl (DE) reported data of the NSABP-B18 and B-27 study, which showed a better disease free and overall survival for women <50 years after neoadjuvant instead of adjuvant chemotherapy. Additionally, young women seem to have a higher rate of pCR after being treated with an anthracycline and taxane based chemotherapy. In that context, Nadia Harbeck (DE) supplemented with data of GEPARSIXTO study which showed a higher pCR by adding weekly carboplatin to a neoadjuvant treatment in TNBC while in the metastatic situation the benefit of platinum is still discussed. As in the advanced TNBC, there is still a lack of international chemostandards. Professor Harbeck illustrated the importance of current clinical trials like the tnAcity trial (nab-paclitaxel/carboplatin versus nab-paclitaxel/gemcitabine versus carboplatin/gemcitabine) to establish a first-line standard in the treatment in the metastatic TNBC. In her talk about endocrine therapy, Olivia Pagani (CH) gave an update of new endocrine regimens and presented recent data about the significant reduction of recurrences by the use of aromatase inhibitors plus ovarian function suppression (OFS) as a new option in premenopausal (HR+) patients. Also she gave an outlook on data about tamoxifen and OFS (SOFT and TEXT trial) which were later presented at San Antonio Breast Cancer Conference in December 2014. What can be discussed in premenopausal and high risk patients is an extended treatment of tamoxifen, considering the patient's life quality.

As one of the most important issues in young patients, fertility and concerns about family planning may play a very important role. Shani Paluch-Shimon and Hila Raanani, both from Israel, discussed those issues in the next session. Regarding fertility preservation, more experience could be made in the last years with ovarian tissue cryopreservation and transplantation (first successful pregnancy in 2005), also new regimens of stimulation before chemo have been developed. Thus, co-administration of tamoxifen during stimulation provides safety without affecting fertility preservation outcome and can be used in BC patients. More data is still needed to handle the desire to have a baby during a long-time therapy (endocrine therapy) from the oncological



Panel at the BCY 2 conference, Dublin.

perspective. No data exist about the safety of interruption of the adjuvant therapy.

Before the poster session, presentation of the best abstracts took place. Thus, Efrat Dagan for research about PGD decisions, Matteo Lambertini from Italy with a prospective study about pregnancy and fertility, and Megan McCann from the US with the development of a toolkit approach for the unique needs of young BC patients were honored for their research.

In her talk about advanced breast cancer, Fatima Cardoso (PT), chair of the conference, pointed out once more the lack of proven standards in the therapy of young BC patients, especially for *BRCA* mutations carriers, and that younger age alone is still no indication for a more aggressive therapy. Also she admitted that the young patient should undergo the same standards of diagnostic and therapy as the older patients with the same disease in metastatic BC.

The last session of the conference concerned survivorship and issues of quality of life. Ann Partridge (US) talked about the reality of onco-brain as a side and long-term effect of our therapies. So far, pharmaceutical agents have not been shown to be effective, settings for cognitive rehabilitation have to be implemented in the occupational therapy. Another important but little discussed issue is the awareness of achieving life quality after the treatment. There is a lack of survivorship care plans or post treatment navigators with recommendations for healthy behaviors, follow-up plans for the disease, or just access of medical and psychosocial support. E-resources like www.cancer.net/survivorship or www.ystourdepink.org are examples for such survivorship platforms.

The conference closed with a consensus statement of the leading international BC specialists to give the base for the *second consensus guidelines for breast cancer in young women*. The team of specialist consisted of Fatima Cardoso (PT), Bella Kaufmann (IL), Leslie Fallowfield (UK), Deborah Fenlon (UK), Karen Gelmon (CA), J Geraghty (IE), Nadia Harbeck (DE), S. Higgings (IE), Sybille Loibl (DE), Elizabeth Moser (PT), Olivia Pagani (CH), Shani Paluch-Shimon (IL), Ann Partridge (US), Fedro Peccatori (IT), and Hila Raanani (IL).

In summary, the organizers of BCY 2 provided an excellent meeting on this very important topic by inviting the leading experts for clinical treatment and medical research in young breast cancer patient. With selected talks about all different aspects within the diagnosis and treatment of the young BC patient, the current issues were well reflected. It was emphasized that the hot topics in the support of young BC patients are around fertility, genetics and that our young patients thus differ significantly from postmenopausal patients what has to be well respected in the treatment of the young patient.

As this is the only meeting focused on the young BC patient, it renders an excellent platform for networking, discussion, and exchange of newest research results in a so far rarely discussed field and points out the importance of more research to create an optimal management in the treatment of young women with breast cancer. The next meeting will take place in 2016, more information can be found at www.eso.net.

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