**BCY4, SESSION 8: Survivorship and quality of life issues**

Quality of Life Issues and Access to care
(including fertility preservation)

Breast Cancer in Young Women BCY4
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Disclosures

• Disclosures are online on BCY4 webpage
• No relevant disclosures for this presentation
Breast Cancer Survivorship Definitions

• Cancer Survivor:

• At 6 months of treatment with curative intent: patients who have entered the post-treatment phase after initial surgery, with or without chemotherapy and/or radiation (BHGI Breast Health Global Initiative definition)

• Starting from the moment of diagnosis of cancer

National Coalition for Cancer Survivorship & National Cancer Institute

Supportive Care, Palliative Care
Survivorship care

- **Supportive care**: care delivered during treatment for potentially curable patients

- **Palliative (and supportive) care**: care delivered for patients with metastatic disease

- **Survivorship care** (is part of supportive/palliative care): for both groups of Early and Advanced Breast Cancer patients

Magnitude of Cancer Survivorship

As of January 1, 2016

Male
- Prostate: 3,306,760
- Colon & rectum: 724,690
- Melanoma: 614,460
- Urinary bladder: 574,250
- Non-Hodgkin lymphoma: 361,480
- Kidney & renal pelvis: 305,340
- Testis: 266,550
- Lung & bronchus: 238,300
- Leukemia: 230,920
- Oral cavity & pharynx: 229,880

Total survivors: 7,377,100

Female
- Breast: 3,560,570
- Uterine corpus: 757,190
- Colon & rectum: 727,350
- Thyroid: 630,660
- Melanoma: 612,790
- Non-Hodgkin lymphoma: 324,890
- Lung & bronchus: 288,210
- Uterine cervix: 282,780
- Ovary: 235,200
- Kidney & renal pelvis: 204,040

Total survivors: 8,156,120

As of January 1, 2026

Male
- Prostate: 4,521,910
- Colon & rectum: 910,190
- Melanoma: 848,020
- Urinary bladder: 754,280
- Non-Hodgkin lymphoma: 488,780
- Kidney: 429,010
- Testis: 335,790
- Leukemia: 318,430
- Lung & bronchus: 303,380

Total survivors: 9,983,900

Female
- Breast: 4,571,210
- Uterine corpus: 942,670
- Colon & rectum: 885,940
- Thyroid: 885,590
- Melanoma: 811,490
- Non-Hodgkin lymphoma: 436,370
- Lung & bronchus: 369,990
- Uterine cervix: 286,300
- Kidney & renal pelvis: 284,380
- Ovary: 280,940

Total survivors: 10,305,870

FIGURE 1. The Estimated Number of US Cancer Survivors.
Note: Estimates for specific cancer types take into account the potential for a history of more than one cancer type.
Source: Surveillance Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.
Survivorship Issues for Young Women with Breast cancer

• Incidence & Prevalence of breast cancer is rising

• Survival rates are improving, variably:
  - 80-90% in High Income Countries (HIC)
  - 12-90% in Low Middle Income Countries (LMIC)

• Survivorship & Quality of Care Issues are relevant everywhere

• Fertility issues are becoming very relevant

Survivorship care

- **Surveillance** for cancer recurrence or new cancers, new Family History, genetic counseling and testing
- **Management of symptoms** that persist after treatment ends
- **Evaluation of risk/ prevention of:** late effects of treatment
- **Access to survivorship care:** Variable, within/across countries

Survivorship care

- **Life style:**
  - psychosocial needs and provision of support
  - Counseling, lifestyle modifications for prevention of cancer–related morbidity & mortality, improve quality of life
- Return to regular duties and work
- **Access:** Variable within/across countries

Survivorship care

Sexual functions and pregnancy:

• Education
• Sexual life
• Contraception
• Fertility preservation
• Family planning
• Possible pregnancy

Access: Variable, within/across countries
Better access to care:

Reduces Disparities in:

• Detection/ Diagnosis/ Therapy
• Monitoring/ Management of side effects
• Detection/Prevention of future complications
• Options for normalization of personal and social life: work/ society/ family planning

Access to awareness, Screening, Treatment, Surgery, RT

- Awareness and breast exam: Reduce LABC
- Screening mammography:
  - debatable according to resources
  - along with awareness
    - downstaging breast cancer
    - reducing total mastectomy rates
- Surgery and Radiation Therapy: improve treatment results and have economic benefits to society in LMIC

Healthy Lifestyle, Cardiovascular Health

- Healthy lifestyle: decreases recurrence and death from breast cancer:
  - Healthy Diet
  - Physical Activity/Exercise
  - Avoidance of Weight Gain
  - Reduced alcohol intake
  - Stopping smoking

→ also good for CVS Health, & post-anthracyclines

Complementary Therapies/
Relaxation & Mindfulness Practices/ Acupuncture

- Improve Quality of Life
- Less fatigue, less anxiety, less fear, ...
- Acupuncture also effect on decreasing hot flashes

- No evidence for increased survival

Contraceptives in Young Women Survivors of Breast Cancer

**Hormonal OCP:**
- Should be generally avoided

**Non-hormonal contraceptive methods**
- Barrier methods: condom, diaphragm
- IUD, non-estrogenic IUD-copper

*Note: Different issue for Women with a positive FH and/or BRCA carriers: Risk does not seem increased; however, duration of OCP may increase risk*

Survivorship: Patient Education
Availability & Access

Roles for:

- Health Care Professionals
- Educational materials: videos, printed materials, online links
- Support groups
- Health Care Authorities/Institutions
- Advocates
Vaginal Dryness and dyspareunemia in Breast Cancer Survivors

- Very common; should not be overlooked!
- **Moisturizers**: Non-hormonal Moisturizers (polycarbophil, hyaluronic acid, gums, or gelatins, … …)
- If low dose estrogen has to be used: may be OK along with tamoxifen but not with AIs
- **Lubricants (at time of sexual activity)**:
  - Water-based lubricants
  - Silicone-based lubricant

Late Changes in Cognitive Functions: Chemobrain

- Decreased attention span, decreased concentration
- Forgetfulness and memory blocks
- Inability to perform regular work (ex.: teaching)
- Altered neuronal integrity, disruption of brain structural networks
- May persist for long
- After chemo, brain irradiation, ... even hormonal therapy
- Should be part of survivorship care
- Helpful Interventions: Mental/brain exercises and Rehab; occupational cognitive therapy, computer, physical exercises

# Bone Density in Breast Cancer Young Survivors

<table>
<thead>
<tr>
<th>Treatment related risk factors</th>
<th>Osteoposrosis (T score &lt; -2.5) (in SOFT/TEXT)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tam</td>
<td>3.9%</td>
<td></td>
</tr>
<tr>
<td>OFS + Tam</td>
<td>7.2%</td>
<td></td>
</tr>
<tr>
<td>OFS + AI</td>
<td>14.8%</td>
<td></td>
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<tr>
<td>Chemo-related premature menopause</td>
<td>At increased risk</td>
<td></td>
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<tr>
<td>If &lt;40 y: 22-61%; If &gt;40 y: 61-97%</td>
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**Interventions:** Vitamin D & calcium supplements, Bisphosphonates / Anti-RANKL


## Bone Density in Breast Cancer Young Survivors: Modify Modifiable Risk Factors

<table>
<thead>
<tr>
<th>Modifiable Risk factors</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Smoking</td>
<td>Cut smoking</td>
</tr>
<tr>
<td>- Sedentary lifestyle</td>
<td>20-30 min/d of moving!</td>
</tr>
<tr>
<td>- Alcohol use</td>
<td>Only 1 glass for men and ½ glass for women ...</td>
</tr>
<tr>
<td>- Decreased sun exposure</td>
<td>20 minutes/day of sun</td>
</tr>
<tr>
<td>- Vitamin D insufficiency/Deficiency</td>
<td>Vit D/ Calcium supplements</td>
</tr>
<tr>
<td>Common in many populations</td>
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**References**


Cardiovascular Risks & Evaluation of Survivors

• Old regimens: 6 cycles of AC: 6 x (50 or 60) mg/m2 = Cum. Dose is 300-360/m2
• Current practices: we give only 4 AC (alone, or with sequential taxanes): Total Cum. Dose is only 240mg/m2:
• Risk of cardiomyopathy: Remains <2%

• Current Tendancy to use less Anthracycline Regimens: TC vs AC: Cardiac toxicity is less.
• Old CMF regimen: remains in use: Cardiac toxicity is less.

• Avoiding anthacyclines especially if small tumors and node-negative: Less cardiac toxicity, and excellent survivals;

Long-Term Cardiac Follow-up of Survivors post Anthracyclines/anti-HER2 LVEF, Over Time

![Graph showing the mean left ventricular ejection fraction (LVEF) measurements over time for National Surgical Adjuvant Breast and Bowel Project B-31 long-term cardiac follow-up participants and those who were eligible but did not consent. Vertical bars represent 95% CIs. AC, doxorubicin and cyclophosphamide; H, trastuzumab; LTF, long-term follow-up; P, paclitaxel.]

# CVS toxicity & Treatment related MDS/Leukemias in Survivors

## Table 1: BCIRG-006: Therapeutic Index, Final Analysis at 10 Years

<table>
<thead>
<tr>
<th></th>
<th>AC-TH</th>
<th>TCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease-free survival events</td>
<td>269</td>
<td>279</td>
</tr>
<tr>
<td>Grade 3/4 congestive heart failure</td>
<td>21 (2%)</td>
<td>4 (0.4%)</td>
</tr>
<tr>
<td>Total disease-free survival events</td>
<td>290</td>
<td>283</td>
</tr>
<tr>
<td>Treatment-related leukemia</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Sustained LVEF loss &gt; 10%</td>
<td>200</td>
<td>97</td>
</tr>
</tbody>
</table>

AC-TH = doxorubicin and cyclophosphamide followed by docetaxel and trastuzumab; TCH = docetaxel, carboplatin, and trastuzumab; LVEF = left ventricular ejection fraction.

Slamon at al. SABCS 2015
Evaluation of survivors: Laboratory and Imaging

- Symptomatic Survivors: Absolutely yes!
  For diagnosis/ For Monitoring Response

- Asymptomatic Survivors: Not Recommended!

ASCO Guidelines / ESMO Guidelines)
Survivorship: Image/ Sex/ Menopause

- Body image, surgical scars
- Weight changes
- Shoulder pains, arm edema, arthralgia
- Endometrial changes
- Bone health
- Early menopause
- Emotional distress, depression
- Sexual life: desire, satisfaction (survivor & partner), frequency of intercourse, dyspareunia, infertility and its prevention
Pregnancy in Young Breast Cancer Survivors

• No longer a discouraged topic!
• Modern times trends: Pregnancy in early Thirties!
• Risk of cancer recurrence in breast cancer survivors is similar between those who get pregnant and those who do not!
• Current Guidelines recommend
  - discuss risks of treatment-induced ovarian insufficiency and infertility
  - discuss options for preservation

Lambertini 2018; Azim H et al 2013, Peccatori; Oktay ESMO, and ASCO guidelines 2017
Survey of physicians' knowledge on availability of International Guidelines on:

- Fertility preservation
- Pregnancy after BC
- BC during pregnancy

Physicians' Education remains essential to ensure Access to information about Care and Fertility preservation

Lambertini, et al. 2018
Access, Modalities: Fertility Preservation

Availability of fertility preservation modalities

• **Embryo cryopreservation**: Most available, presence of religious obstacles in different hospitals, countries, ...

• **Oocyte cryopreservation**: Availability is variable, use of AI may reduce fears and duration of stimulation; upfront if no risks of delaying therapy.

• **Ovarian tissue cryopreservation and transplantation**: Remains experimental

• **OFS during chemotherapy**: safety is OK, more return of menses, more pregnancies, most available; not to use if cryopreservation available

Moore, Unger NEJM 2015, Lambertini JAMA 2015; Leonard RCF: Annals Oncology 2017; Oktay et al. JCO 2018; Peccatori; Oktay ESMO and ASCO guidelines
Access to fertility preservation

- Non-oncology fertility preservation experience: OB/GYN
- Licensing of fertility centers is required to ensure quality control and avoidance of misinformation and abuse of women seeking fertility preservation

- Discuss before initiation of therapy!

ESO-BCY, ESMO and ASCO guidelines
Limited Access to Fertility Care remains an issue worldwide

- In LMIC: majority of patients suffer from disparities
- In all Countries: availability of OB/GYN Fertility experts,
- In USA: Racial and ethnic minorities: health care availability, comorbidities, more likely to be uninsured, at greater risk of receiving care of poor quality than other Americans!
- In all Countries: Geography and distance from major referral centers may limit access
- In many Countries: Deductibles, Co-insurance, Out-of-Pocket payments!
October: Breast Cancer Awareness Month
→ Breast Cancer ACTION Month

October: Quality of Life / Access to Care:
Breast Cancer Action/Advocacy for:
Better Early Detection & Screening
Better care & QoL of Patients and Survivors