Diagnosis and Treatment of Patients with Primary and Metastatic Breast Cancer

Breast Cancer Follow-Up
Breast Cancer
Follow-Up

- **Versions 2002–2015:**
  Bauerfeind / Bischoff / Blohmer / Böhme / Costa / Diel / Gerber / Hanf / Heinrich / Janni / Kaufmann / Kümmel / Lux / Maass / Möbus / Mundhenke / Oberhoff / Rody / Scharl / Solomayer / Thomssen

- **Version 2016:**
  Huober / Diel
Breast Cancer Follow-Up Objectives I

Early detection of curable events

- In-breast recurrence
- Loco-regional recurrence*

Early detection of metastases

- Early detection of symptomatic metastases
- Early detection of asymptomatic metastases

* loco-regional recurrence is associated with higher risk for mortality in node positive, PR negative, younger patients and patients with short time from diagnosis to recurrence

Oxford / AGO
LoE / GR

- 1a B ++
- 1a B ++
- 3b C +
- 1a A -
Breast Cancer Follow-Up
Objectives II

- Improve quality of life
- Improve physical performance
- Reduce therapy related side effects as osteoporosis, cardiac failure, fatigue, neurotoxicity, lymphedema, sexual disorders, cognitive impairment
Breast Cancer Follow-Up
Objectives III

- Re-evaluation of current adjuvant therapy
  - incl. monitoring of compliance with endocrine therapies

- Pro-active improvement of compliance:
  - Patient information about efficacy data of 5-10 year endocrine therapy
  - Early therapy of side effects (sports, NSAIDs, vitamin D / Calcium)
Breast Cancer Follow-Up

Objectives

- Psycho-social aspects of support and counseling
  - Pregnancy, contraception, sexuality, quality of life, menopausal symptoms, fear for recurrence
- Second opinion on primary therapy
- General counseling (genetics, HRT, prophylactic surgery, breast reconstruction)

Oxford / AGO
LoE / GR

4 C +
2c B ++
2c C +
Intervention with regard to co-morbidities and life-style risks in order to reduce negative effects on disease course

- **Treatment of type II-diabetes**  
  (>25% undetected DM in postmenopausal BC patients)  
  ++

- **Weight intervention**  
  (if BMI <18.5 and >40)  
  2a B +

- **Reduction of dietary intake**  
  (at least 15 % calories from fat)  
  in HR neg. breast cancer patients is associated with improved overall survival  
  2b B +

- **Avoid Smoking**  
  (bc related mortality 2 x and BC unrelated mortality 4 x elevated)  
  2b B ++

- **Reduce alcohol consumption below 6 g/d**  
  2b B +

- **Moderate sport intervention when physical activity was reduced before**  
  1b A ++
Follow-up Objectives Reported by Patients

- Examination of the breast
- Reassurance
- Guidance of patients, answering questions
- Evaluation of treatment and treatment of side effects
- Psychosocial support

Oxford LoE 4 C
Routine Follow-Up Examinations in Asymptomatic Patients

Tests:

- History (specific symptoms)
- Physical examination
- Breast self-examination
- Mammography
- Sonography of the breast
- Routine MRI of the breast
- MRI of the breast in case of inconclusive conventional imaging
- Pelvic examination
- DXA-scan at baseline and repeat scan according to individual risk in women with premature menopause or women taking an AI

<table>
<thead>
<tr>
<th>Test</th>
<th>Oxford / AGO LoE / GR</th>
</tr>
</thead>
<tbody>
<tr>
<td>History (specific symptoms)</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Physical examination</td>
<td>1a B ++</td>
</tr>
<tr>
<td>Breast self-examination</td>
<td>5 D +</td>
</tr>
<tr>
<td>Mammography</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Sonography of the breast</td>
<td>2a B ++</td>
</tr>
<tr>
<td>Routine MRI of the breast</td>
<td>3b B +/-</td>
</tr>
<tr>
<td>MRI of the breast in case of inconclusive conventional imaging</td>
<td>3b B +</td>
</tr>
<tr>
<td>Pelvic examination</td>
<td>5 D ++</td>
</tr>
<tr>
<td>DXA-scan at baseline and repeat scan according to individual risk in</td>
<td>5 D +</td>
</tr>
<tr>
<td>women with premature menopause or women taking an AI</td>
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</table>
Routine Follow-Up Examinations in Asymptomatic Patients

- Routine biochemistry (incl. tumor markers) 1a A -
- Ultrasound of the liver 1a A -
- Bone scan 1a A -
- Chest X-ray 1a A -
- CT of chest, abdomen and pelvis 2a D -
- Detection of isolated / circulating tumor cells 2a D -
- PET 2b B -
- Whole body MRI 2b B -
Local recurrence & in-breast recurrence:

- Incidence 7–20% (depending on time of F/U)
- Breast self-examination
- Physical examination, mammography & US
- Magnetic resonance imaging (MRI)
Early Detection of Potentially Curable Events

Contralateral breast cancer:

- Rel. risk: 2.5–5
- Incidence: 0.5–1.0 % / year
- Breast self-examination
- Physical examination, mammography & US
- Routine breast MRI

Oxford / AGO LoE / GR

5  D  +
1a  A  ++
5  D  -
Early Detection of Potentially Curable Events

Unrelated site carcinoma:

- Colon RR 3.0; endometrium RR 1.6
- Ovary RR ca. 1.5; lymphoma RR 7

- Screening for secondary malignancies according to current guidelines ±

- Pelvic examination and PAP smear 5 D ++
- Routine endometrial ultrasound / biopsy 1b B -
Follow-Up Care for Breast Cancer

Recommendations for asymptomatic pts.
(modified ASCO-ACS guidelines 2016, NCCN 1.2016 guidelines and S3 national German guideline 2012)

<table>
<thead>
<tr>
<th>Clinical follow-up</th>
<th>Follow-Up*</th>
<th>Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years after primary therapy</td>
<td>1 2 3</td>
<td>4 5 &gt; 6</td>
</tr>
<tr>
<td>History, physical examination, counseling</td>
<td>inv.: every 3 months</td>
<td>inv.: every 6 months</td>
</tr>
<tr>
<td>Self-examination</td>
<td>monthly</td>
<td></td>
</tr>
<tr>
<td>Imaging modalities and biochemistry</td>
<td>indicated only by complaints, clinical findings or suspicion of recurrence</td>
<td></td>
</tr>
<tr>
<td>Mammo- graphy and sono- graphy</td>
<td>BCT**</td>
<td></td>
</tr>
<tr>
<td>Mastectomy</td>
<td>contralateral every 12 months</td>
<td></td>
</tr>
</tbody>
</table>

* Continued follow-up visits if still on adjuvant treatment
** In pts with breast-conserving therapy (BCT): First mammography 1 year after initial mammography or at least 6 months after completion of radiotherapy
Breast Cancer Follow-up
Duration. Breast Nurses.

- Duration of follow-up
  - until 5 yrs
  - until 10 yrs

- Surveillance by specialized breast nurses

Oxford / AGO
LoE / GR
1c A ++
1c A +
2b B +/-*

*Studies recommended
Intrinsic typing of breast cancer leads to subgroups with different course of disease. Thus, postoperative surveillance should be adapted to specific time-dependent hazards of recurrence.

ER-positive patients have stable risk over many years requiring long term surveillance.

However, patients with HER2-positive disease and TNBC have more risk in the early phase of follow-up and should therefore receive more intense surveillance in the first years of follow-up.

Ribelles et al. BCR 2013
Breast Cancer Follow-Up (2/16)

No further information

No references
Breast Cancer Follow-Up, Objectives I (3/16)

No further information

References:

Statement: Psycho-social aspects


Statement: risk factors of mortality after loco-regional recurrence

Breast Cancer Follow-Up, Objectives II (4/16)

No further information

References:

Statement: Obesity, physical activity and quality of life


Statement: Obesity and breast cancer prognosis

Statement: lymphedema


Statement: sexual disorders and cognitive impairment:
Breast Cancer Follow-Up, Objectives III (5/16)

No further information

References:

Statement: Re-evaluation of current adjuvant therapy

1. Expert opinion Organkommission

Statement: Monitoring of compliance

1. Hershman DL et al., SABCS, 2010
3. Neven P, Markopoulos C, Tanner MME et al.: The Impact of Educational Materials on Compliance and Persistence with Adjuvant Aromatase Inhibitors: 2 Year Follow-Up and Final Results from the CARIATIDE Study. SABCS 2011 [P5-16-02].
Statement: Early Detection of Distant Disease


Breast Cancer Follow-Up, Objectives (6/16)

No further information

References:

Statement: Early Detection

Statement: Psycho-social aspects


Statement: prophylactic surgery

Breast Cancer Follow-Up, Objectives (7/16)

No further information

References:

Statement: Early Detection


**Statement: Psycho-social aspects**


Statement: for all statements see most recent literature see at Survivorship care guidelines of ASC and ASCO:

Follow-up Objectives - Reported by Patients (8/16)

No further information

References:

Routine Follow-Up Examinations in Asymptomatic Patients (9/16)

No further information

References:

Statement: History (specific symptoms)


Statement: Physical examination


Statement: Breast self-examination

Expert Opinion
Statement: Mammography


Statement: Sonography of the breast


Statement: MRI of the breast in case of inconclusive conventional imaging


Statement: Pelvic examination

Expert Opinion


Statement: D5ea scan

Expert Opinion

Routine Follow-Up Examinations in Asymptomatic Patients (10/16)

No further information

References:

Statement: Magnetic resonance imaging (MRI) of the breast


Statement: Routine biochemistry (incl. tumor markers)

Statement: Ultrasound of the liver


Statement: Bone scan

Statement: Chest X-ray


Statement: CT of chest, abdomen and pelvis

Statement: Detection of isolated/circulating tumor cells


Statement: PET


Statement: Whole body MRI

Early Detection of Potentially Curable Events (11/16)

No further information

References:

Statement incidence


Statement breast self examination

Statement physical examination, mammography & US

**Early Detection of Potentially Curable Events (12/16)**

*No further information*

**References:**

**Statement risk and incidence**


**Statement breast self examination**

Statement physical examination, mammography & US


Statement: Risk according to intrinsic subtype

1. Otto Metzger-Filho et al. Patterns of Recurrence and Outcome According to Breast Cancer Subtypes in Lymph Node–Negative Disease: Results From International Breast Cancer Study Group Trials VIII and IX, JCO September 1, 2013 vol. 31 no. 25 3083-3090
Early Detection of Potentially Curable Events (13/16)

No further information

References:

Statement: Risk


Statement: Screening for secondary malignancies according to current guidelines

Statement: Pelvic examination and PAP smear

1. Rieck GC, Lim K, Rogers MT: Screening for familial ovarian cancer--management and outcome of women with moderate to high risk of developing ovarian cancer. Int J Gynecol Cancer. 2006 Jan-Feb;16 Suppl 1:86-91

Statement: Endometrial ultrasound / biopsy


Statement: Marrow neoplasms after adjuvant breast cancer therapy

Follow-Up Care for Breast Cancer (14/16)

No further information

References:

Breast Cancer Follow-up - Duration. Breast Nurses. (15/16)

No further information

References:

Luminal-like, HER2-positive and Triple-negative Breast Cancer Patients (16/16)

No further information

References:


2. Otto Metzger-Filho et al., Patterns of Recurrence and Outcome According to Breast Cancer Subtypes in Lymph Node–Negative Disease: Results From International Breast Cancer Study Group Trials VIII and IX, JCO September 1, 2013 vol. 31 no. 25 3083-3090