

Diagnosis and Treatment of Patients with Primary and Metastatic Breast Cancer



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Specific Sites of Metastases

Specific Sites Of Metastases

Local Approaches to Metastatic Disease

- **Versions 2002–2017:**
Bauerfeind / Bischoff / Böhme / Brunnert / Dall / Diel /
Fehm / Fersis / Friedrich / Friedrichs / Gerber / Hanf /
Janni / Lück / Lux / Maass / Oberhoff / Rezai /
Schaller / Schütz / Seegenschmiedt / Solomayer /
Souchon / Thommsen / Bischoff
- **Version 2018:**
Schütz / Kreipe

Specific Sites of Metastases

- **Liver and lung metastases**
- **Malignant pleural and pericardial effusions**
- **Ascites**
- **Bone marrow involvement**
- **Soft tissue metastases**
- **Any other organs**

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General Aspects Surgery or Ablation of Metastases

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- **Histological / cytological verification**
- **Systemic treatment preferred**
- **Consider surgery only in case of good response to palliative treatment**
- **Metastatic surgery is an option for patients in good physical condition? With late onset of small number of metastases**
- **Local treatment in the case of pain, exulceration, persistence after systemic treatment, bowel obstruction, hydrocephalus occlusus, spinal cord compression**
- **Systemic treatment after surgery**

| Oxford | | |
|--------|----|-----|
| LoE | GR | AGO |
| 3 | B | + |
| 2a | B | ++* |
| 2b | C | + |
| 3a | B | + |
| 5 | D | +/- |
| 5 | D | ++ |

* See chapters with systemic treatment recommendations

Local Therapy in Primary Metastatic Disease

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- **Surgery (R0) of the primary tumor**
 - In case of bone metastases only
 - In case of visceral metastases
- **Axillary surgery for cN1**
- **Sentinel if cN0**
- **Radiotherapy of the primary tumor**
 - Alone (without surgery)
 - After local surgical treatment with BCS or mastectomy (acc. adjuvant indication)

| | Oxford | | |
|-----------------|--------|----|-----|
| | LoE | GR | AGO |
| 2b ^a | B | | +/- |
| 2b ^a | B | | - |
| 5 | D | | +/- |
| 5 | D | | - |
| 3a | C | | +/- |
| 3a | C | | + |

Liver Metastases

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- **Resection of liver metastases (R0)**

HR positive: chemotherapy sensitive, long disease-free interval,
absence of extrahepatic disease, ≤ 3 metastases

HER2 positive: age < 50 y., metastasis < 5 cm, no further metastasis

- **Regional chemotherapy**

- **Regional radiotherapy**

[SIRT, stereotactic body radiosurgery with volumetric intensity
modulated arc therapy (SRS-VMAT), radiochemoembolization,
other modalities]

- **Thermoablation**
(RFA, LITT, cryotherapy)

| Oxford | | |
|--------|----|-----|
| LoE | GR | AGO |
| 3a | B | +/- |
| 3b | C | +/- |
| 4 | C | +/- |
| 3b | C | +/- |

Pulmonary Metastases

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- **Before any surgery: staging and biopsy (CT-guided FNA / CNB or transbronchial FNA)**
- **Resection of pulmonary metastases by VATS or conventional resection**
 - In case of multilocular metastatic disease
 - In case of single / few unilateral metastasis with curative intent
- **Thermoablation (CT-guided RFA, LITT)**
- **Regional radiotherapy**
(e.g. stereotactic body radiosurgery with volumetric intensity modulated arc therapy (SRS-VMAT))

| Oxford | | |
|--------|----|-----|
| LoE | GR | AGO |
| 3a | B | + |
| 3a | B | - |
| 3a | B | +/- |
| 3b | C | +/- |
| 4 | C | +/- |

* VATS = video-assisted thoracic surgery

Malignant Pleural Effusions (MPE)

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Incidence:

- ~ 10 % of all breast cancer patients
- ~ 50 % of pat. with advanced breast cancer
- ~ 30 % of all MPE are caused by breast cancer

Clinical presentation:

- Extensive MPE are mostly due to malignancy
- The majority of MPE are symptomatic [dyspnea (80%), dull chest pain (30%), nonproductive cough (10%)]
- Survival is related to the presence of additional metastases, age, ECOG PS and extent of involving the pleural surface

Diagnostic procedures:

- Clinical examination
- Imaging techniques (chest X-Ray, US, CT-Scan)
- Proven malignant effusion [cytology (→ 50% false negative), histology by thoracoscopy]

Malignant Pleural Effusion (MPE)

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| | Oxford | | |
|---|--------|----|-----|
| | LoE | GR | AGO |
| ■ If expected life time is short, less invasive procedures should be considered | 4 | C | ++ |
| ■ VATS and Talcum-pleurodesis* | 1b | B | ++ |
| ■ Chemical pleurodesis* | | | |
| ■ Talcum powder | 1a | B | + |
| ■ Bleomycin, Doxycycline, Mitoxantrone | 2b | C | +/- |
| ■ Povidone-iodine (20 ml of 10% solution) | 1b | B | + |
| ■ Continous pleural drainage | 2a | B | ++ |
| ■ Systemic treatment after pleurodesis | 3b | C | +/- |
| ■ Local antibody therapy (i.e. Catumaxomab) | 3b | C | - |
| ■ Serial thoracocentesis | 4 | C | +/- |

* Adequate pain-relief

VATS: video-assisted thoracoscopic surgery

Malignant Ascites

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Ascites:

- Puncture, drainage in symptomatic patients
- Systemic therapy
- Local chemotherapy
- Local antibody therapy (i.e. Catumaxomab)

Oxford

| LoE | GR | AGO |
|-----|----|-----|
| 4 | D | ++ |
| 3b | D | ++ |
| 3b | D | +/- |
| 3b | D | +/- |

Malignant Pericardial Effusion

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Symptomatic pericardial effusion:

- Drainage, fenestration
- Combination with optimized systemic therapy
- VATS (video-assisted thoracic surgery)
- Ultrasong guided puncture and instillation of cytotoxic compounds
 - Bleomycin, cisplatinum, mitomycin C, mitoxantrone etc.
 - Bevacizumab

| Oxford | | |
|--------|----|-----|
| LoE | GR | AGO |
| 3b | B | ++ |
| 4 | C | ++ |
| 4 | C | + |
| 4 | C | +/- |
| 4 | C | +/- |

Bone Marrow Infiltration Associated with Pancytopenia

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- **Weekly chemotherapy with*:**
 - Epirubicin, Doxorubicin, Paclitaxel
 - Capecitabine
- **HER2 pos.:**
add anti-HER2 -treatment

| Oxford | | |
|--------|----|-----|
| LoE | GR | AGO |
| 4 | D | ++ |
| 4 | D | ++ |
| 5 | D | ++ |

* Consider pre-treatment

Soft Tissue Metastasis

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- **Surgery of locoregional limited metastasis (skin, muscular, nodal) with complete resection (R0) after exclusion of further metastasis**
- **Radiotherapy (after surgery or, if immediate surgery is not indicated):**
 - **Soft tissue metastasis**
 - **Paresis, spinal cord compression**
 - **Plexus infiltration**

| | Oxford | | |
|--|--------|----|-----|
| | LoE | GR | AGO |
| | 4 | C | + |
| | 3b | C | + |
| | 2b | C | ++ |
| | 3b | C | ++ |