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 / Thommssen / 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

Consider also chapter „CNS Metastases“ and „Locoregional Recurrence (Loco-Regional Recurrence Treatment Options in Non Curative Cases)“
General Aspects Surgery or Ablation of Metastases

- Histological / cytological verification
  - Oxford: LoE 3, GR B, AGO +

- Systemic treatment preferred
  - Oxford: LoE 2a, GR B, AGO ++*

- Consider surgery only in case of good response to palliative treatment
  - Oxford: LoE 2b, GR C, AGO +

- Metastatic surgery is an option for patients in good physical condition? With late onset of small number of metastases
  - Oxford: LoE 3a, GR B, AGO +

- Local treatment in the case of pain, exulceration, persistence after systemic treatment, bowel obstruction, hydrocephalus occlusus, spinal cord compression
  - Oxford: LoE 5, GR D, AGO +/-

- Systemic treatment after surgery
  - Oxford: LoE 5, GR D, AGO ++

* See chapters with systemic treatment recommendations
Local Therapy in Primary Metastatic Disease

- **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)

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2b</td>
<td>B</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>2b</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>D</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>D</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>3a</td>
<td>C</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>3a</td>
<td>C</td>
<td>+</td>
</tr>
</tbody>
</table>
Liver Metastases
Local Therapy

- 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)

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3a</td>
<td>B</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>C</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>C</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>C</td>
<td>+/-</td>
</tr>
</tbody>
</table>
# Pulmonary Metastases

## Local Therapy

- **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))

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3a</td>
<td>B</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>3a</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>3a</td>
<td>B</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>C</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>C</td>
<td>+/-</td>
</tr>
</tbody>
</table>

* VATS = video-assisted thoracic surgery*
Malignant Pleural Effusions (MPE)

Incidence:
- ~ 10% of all breast cancer patients
- ~ 50% of patients 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)

## Local Therapy

- If expected life time is short, less invasive procedures should be considered
  - **Oxford LoE** 4  
  - **GR** C  
  - **AGO** ++

- **VATS and Talcum-pleurodesis***
  - **Oxford LoE** 1b  
  - **GR** B  
  - **AGO** ++

- **Chemical pleurodesis***
  - **Oxford LoE** 1a  
  - **GR** B  
  - **AGO** +
  - Talcum powder
  - Bleomycin, Doxycycline, Mitoxantrone
  - Povidone-iodine (20 ml of 10% solution)

- **Continous pleural drainage**
  - **Oxford LoE** 2a  
  - **GR** B  
  - **AGO** ++

- **Systemic treatment after pleurodesis**
  - **Oxford LoE** 3b  
  - **GR** C  
  - **AGO** +/-

- **Local antibody therapy (i.e. Catumaxomab)**
  - **Oxford LoE** 3b  
  - **GR** C  
  - **AGO** -

- **Serial thoracocentesis**
  - **Oxford LoE** 4  
  - **GR** C  
  - **AGO** +/-

* Adequate pain-relief

VATS: video-assisted thoracoscopic surgery
Malignant Ascites
Local Therapy

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

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>D</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>D</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>D</td>
<td>+/-</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>D</td>
<td>+/-</td>
</tr>
</tbody>
</table>
Malignant Pericardial Effusion
Local Therapy

Symptomatic pericardial effusion:

- Drainage, fenestration
  - Oxford: LoE 3b, GR B, AGO ++
- Combination with optimized systemic therapy
  - Oxford: LoE 4, GR C, AGO ++
- VATS (video-assisted thoracic surgery)
  - Oxford: LoE 4, GR C, AGO +
- Ultrasound guided puncture and instillation of cytotoxic compounds
  - Oxford: LoE 4, GR C, AGO +/-
  - Bleomycin, cisplatinum, mitomycin C, mitoxantrone etc.
  - Bevacizumab

www.ago-online.de
Bone Marrow Infiltration Associated with Pancytopenia

- **Weekly chemotherapy with***:
  - Epirubicin, Doxorubicin, Paclitaxel
  - Capecitabine

- **HER2 pos.**:
  add anti-HER2 -treatment

* Consider pre-treatment
Soft Tissue Metastasis
Local Therapy

- 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

<table>
<thead>
<tr>
<th>Oxford</th>
<th>LoE</th>
<th>GR</th>
<th>AGO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>C</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>C</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>2b</td>
<td>C</td>
<td>++</td>
</tr>
<tr>
<td></td>
<td>3b</td>
<td>C</td>
<td>++</td>
</tr>
</tbody>
</table>