



Diagnosis and Treatment of Patients with early and advanced Breast Cancer

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Specific Sites of Metastases

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Specific Sites Of Metastases

Local Approaches to Metastatic Disease

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- **Versions 2002–2018:**
**Bauerfeind / Bischoff / Böhme / Brunnert / Dall /
Diel / Fehm / Fersis / Friedrich / Friedrichs / Gerber /
Hanf / Janni / Kreipe / Lück / Lux / Maass / Oberhoff
/ Rezai / Schaller / Schütz / Seegenschmiedt /
Solomayer / Souchon / Thommsen / Bischoff**
- **Version 2019:**
Albert / Kolberg-Liedtke

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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Consider also chapter „CNS Metastases “ and „Locoregional Recurrence (Loco-Regional Recurrence Treatment Options in Non Curative Cases)“

General Treatment Aspects of Metastases

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- **Histological / cytological verification**
- **Systemic treatment preferred**
- **Consider surgery only in case of good response to palliative treatment**
- **Radiation for patients in good physical condition with late onset of oligometastases**
- **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

Local Therapy

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

- **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), radiochemo-embolization, other modalities]
- **Thermoablation**
 (RFA, LITT, cryotherapy)

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	+/-
3a	B	+/-

* 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

Local Therapy

Symptomatic pericardial effusion:

- Drainage, fenestration
- Combination with optimized systemic therapy
- VATS (video-assisted thoracic surgery)
- Ultrasound 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	+/-



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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	++