

Diagnosis and Treatment of Patients with early and advanced Breast Cancer

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Guidelines Breast
Version 2021.1E

Specific Sites of Metastases

Specific Sites Of Metastases

Local Approaches to Metastatic Disease

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- **Versions 2002–2020:**

Albert / Bauerfeind / Bischoff / Böhme / Brunnert / Dall / Diel / Fehm / Fersis / Friedrich / Friedrichs / Gerber / Hanf / Janni / Kolberg-Liedtke / Kreipe / Loibl / Lück / Lux / Maass / Oberhoff / Rezai / Rody / Schaller / Schütz / Seegenschmiedt / Solomayer / Souchon / Thomssen

- **Version 2021:**

Mundhenke / Park-Simon / Thomssen

Specific Sites of Metastases

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

General Treatment Aspects of Metastases

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- **Histological / cytological verification**
- **Systemic therapy preferred**
- **Consider surgery only in case of good response to palliative treatment, oligometastases**
- **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

Specific Sites of Metastases

Local Therapy in Primary Metastatic Disease

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	Oxford		
	LoE	GR	AGO
■ Surgery (R0) of the primary tumor (no OS Benefit)*	1b	B	-
■ In case of symptoms by primary tumor	5	D	+/-
■ In case of bone metastases only	2b	B	+/-
■ In case of visceral metastases	2b	B	-
■ Axillary surgery for cN1	5	D	+/-
■ Sentinel if cN0	5	D	-
■ Radiotherapy of the primary tumor			
■ Alone (without surgery)	3a	C	+/-
■ After local surgical treatment with BCS or mastectomy (according to adjuvant indication)	3a	C	+

* Individualized procedure in case of oligometastatic disease
Specific Sites of Metastases

Randomized Phase III Trials

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Trial	n	Prior to Randomization	Local Control	Improved OS Primary Endpoint	QoL
ECOG-Acrin 2108	256	4-8 months systemic therapy	yes	no	ns
Tata Memorial Hospital	350	chemotherapy	yes	no	-
MF07-01	278	no systemic therapy	yes	no in post analysis evaluation improved OS (notably in solitary bone mets.)	-
ABCSG-28*	90	no systemic therapy	yes	no	ns
JCOG 1017	410	completed, results not reported so far			

ns not significant *trial terminated due to poor recruitment
Specific Sites of Metastases

Liver Metastases

Local Therapy

Oxford

LoE	GR	AGO
3a	B	+/-

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

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

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

- **Regional chemotherapy**

3b C +/-

- **Regional radiotherapy**

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

3b C +/-

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

3b C +/-

Pulmonary Metastases

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

- **Before any surgery: staging and biopsy
(CT-guided FNA / CNB or transbronchial FNA, EBUS)**

- **Resection of pulmonary metastases by VATS or
conventional resection**

- In case of multi-locular 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))

* VATS = video-assisted thoracic surgery

Specific Sites of Metastases

Malignant Pleural Effusions (MPE)

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Incidence:

- ~ 10 % of patients with metastatic breast cancer
- ~ 17-30 % 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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	LoE	GR	AGO
■ If short life expectancy, 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	+/-
■ Serial thoracocentesis	4	C	+/-

* Adequate pain-relief

VATS: video-assisted thoracoscopic surgery

Specific Sites of Metastases

Malignant Ascites

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Ascites:

- Puncture, drainage in symptomatic patients
- Continuous drainage of ascites
- Systemic therapy
- Local chemotherapy

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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)
- Ultrasound-guided puncture and instillation of cytotoxic compounds
 - Bleomycin, cisplatin, 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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Oxford		
LoE	GR	AGO
<hr/>		
4	D	++
4	D	++
5	D	++
4	C	+

- **Weekly chemotherapy with*:**
 - Epirubicin, Doxorubicin, Paclitaxel
 - Capecitabine
- **HER2-positive:**
 - Add anti-HER2-treatment
- **Hormone receptor-positive:**
 - Endocrine-based therapy

* Consider pre-treatment

Soft Tissue Metastasis

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- **Surgery of limited locoregional 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	++