Ductal Carcinoma in Situ (DCIS)
Ductal Carcinoma in Situ (DCIS)

- **Version 2002:** Gerber

- **Versions 2003–2016:** Audretsch / Blohmer / Brunnert / Costa / Fersis / Friedrich / Hanf / Junkermann / Kühn / Lux / Maass / Möbus / Nitz / Oberhoff / Scharl / Solomayer / Souchon / Thill / Thomssen

- **Version 2017:** Budach / Fersis
# Pretherapeutic Assessment of Suspicious Lesions (BIRADS IV)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Oxford / AGO LoE / GR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammography</td>
<td></td>
</tr>
<tr>
<td>- Magnification view of microcalcification</td>
<td>1b A ++</td>
</tr>
<tr>
<td>- Increase of detection rate of G1/G2 DCIS by full-field digital mammography (versus screen-film)</td>
<td>4 C ++</td>
</tr>
<tr>
<td>Stereotactic core needle / vacuum biopsy (VAB)</td>
<td></td>
</tr>
<tr>
<td>- Specimen radiography</td>
<td>2b B ++</td>
</tr>
<tr>
<td>- Marker (Clip) left at biopsy site for location if lesion is completely removed</td>
<td>5 D ++</td>
</tr>
<tr>
<td>Assessment of extension</td>
<td></td>
</tr>
<tr>
<td>- MRI</td>
<td>1b B +/-</td>
</tr>
<tr>
<td>- Clinical examination</td>
<td>5 D ++</td>
</tr>
<tr>
<td>- FNA / ductal lavage</td>
<td>5 D -</td>
</tr>
<tr>
<td>- Interdisciplinary board presentation</td>
<td>5 D ++</td>
</tr>
<tr>
<td>Studie</td>
<td>Anzahl Untersuchungen</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Gilles et al 1996</td>
<td>172</td>
</tr>
<tr>
<td>Westerhof et al 1998</td>
<td>63</td>
</tr>
<tr>
<td>Bazzocchi et al 2006</td>
<td>112</td>
</tr>
<tr>
<td>Kuhl et al 2007</td>
<td>75</td>
</tr>
<tr>
<td>Baur et al. 2013</td>
<td>58</td>
</tr>
</tbody>
</table>

„Ein negativer MRT-Befund kann nicht als Beweis für Gutartigkeit gewertet werden.“
**Systematic review**

**Meta-analysis of the effect of preoperative breast MRI on the surgical management of ductal carcinoma *in situ***

A. Fancellu¹, R. M. Turner², J. M. Dixon⁴, A. Pinna¹, P. Cottu¹ and N. Houssami³

¹Department of Clinical and Experimental Medicine, Unit of General Surgery 2, Clinica Chirurgica, University of Sassari, Sassari, Italy; ²School of Public Health and Community Medicine, The University of New South Wales, and ³Screening and Test Evaluation Programme, School of Public Health, Sydney Medical School, University of Sydney, Sydney, New South Wales, Australia and ⁴Breakthrough Breast Cancer Research Unit, Institute of Genetics and Molecular Medicine, University of Edinburgh, Edinburgh, UK

_Correspondence to:_ Dr. A. Fancellu, Department of Clinical and Experimental Medicine, Unit of General Surgery 2, Clinica Chirurgica, University of Sassari, Viale San Pietro 43, 07100 Sassari, Italy (e-mail: afancell@uniss.it)

*BJS 2015; 102: 883–893*
MRI and DCIS

- 9 Studien für diese Metaanalyse (7 Kohorten und 2 randomisierte Studien), die MRI im Rahmen der präoperativen Abklärung verwendet haben.

- 4 Studien hatten sowohl DCIS als invasives Ca.

- In 4 Studien war BEO vorgesehen.

Fancellu A et al, BJS, 102, 2015
MRI and DCIS

- Adjusted odds ratios;
  Estimates of the effect of preoperative MRI on surgical outcomes in patients with ductal carcinoma in situ;

Fancellu A et al, BJS, 102, 2015
MRI and DCIS

The present meta-analysis shows that preoperative MRI in women with DCIS is not associated with an improvement in surgical outcomes. MRI increases the initial rate of mastectomy, although the overall mastectomy rate is not significantly increased as a result of MRI. Importantly, this meta-analysis shows that preoperative MRI does not reduce the odds of having negative margins after BCS, nor does it reduce the odds of patients requiring reoperation for positive margins. On the basis of the collective evidence summarized in this meta-analysis, preoperative MRI does not improve the surgical treatment of women with DCIS of the breast.
The True Impact of Breast MRI on the Management of In-Situ Disease: More is Not Better

Michael Lallemand MD, Morgan Barron MD, Jason Bingham MD, Andrew Mosier MD, Mark Hardin MD, Vance Sohn MD

Over a seven year period, 93 patients were diagnosed with DCIS on percutaneous biopsy with no other indication for a breast MRI. Of these patients, 81 underwent an MRI preoperatively and comprised our patient cohort. Those that did not undergo an MRI were unable to do so either due to body habitus, anxiety, or the presence of an implantable pacemaker.

In our patient cohort, 67 elected to undergo breast conservation therapy (BCT) and 14 decided to proceed with mastectomy. Of the BCT group, 8 required an additional procedure for positive margins (11.9%), four of whom chose to proceed with re-excision, while the remaining four were converted to mastectomy.
MRI and DCIS

The True Impact of Breast MRI on the Management of In-Situ Disease: More is Not Better

Michael Lallemand MD*,1, Morgan Barron MD2, Jason Bingham MD3, Andrew Mosier MD4, Mark Hardin MD5, Vance Sohn MD6

Our data reveals that the routine use of MRI for DCIS did not change the overall clinical management in 88 of 89 patients (99%). Rather, it led to additional unnecessary studies and delayed time to definitive surgical therapy. Forty-six patients (57%) had a finding on MRI that prompted additional workup, including 17 additional biopsies, only one of which was positive.

At our institution, bilateral breast MRI is no longer routinely performed for patients being evaluated for DCIS. The impetus for this study was driven by the psychological distress that many patients felt by the time they needed to decide on a surgical treatment plan. Many felt overwhelmed and exhausted as they had already undergone numerous tests, biopsies, and delay to definitive therapy associated with the false positive findings on MRI. As stated, over half of the patients (57%) had a finding on MRI which prompted additional workup, including 16 negative biopsies. This study confirms that routine MRI is not useful to patients diagnosed with DCIS.
108.196 patients from the SEER data base
- Retrospective analysis
- Breast cancer specific mortality 3.3%
- Increased in young women (< 35 years) and black ethnicity
- The risk of death increases after ipsilateral invasive recurrence HR 18 (95%CI, 14.0-23.6)
- Prevention of invasive recurrence by radiotherapy does not diminish mortality at 10 years
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases, No</th>
<th>10–Year BCS Mortality (95% CI), %</th>
<th>Univariate HR (95% CI)</th>
<th>P Value</th>
<th>Multivariate(^3) HR (95%)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lumpectomy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without radiotherapy</td>
<td>19762</td>
<td>0.9 (0.7 - 1.1)</td>
<td>1 [Reference]</td>
<td></td>
<td>1 [Reference]</td>
<td></td>
</tr>
<tr>
<td>With radiotherapy</td>
<td>42250</td>
<td>0.8 (0.7 – 1.0)</td>
<td>0.86 (0.67 – 1.10)</td>
<td>0.22</td>
<td>0.81 (0.63 – 1.04)</td>
<td>0.10</td>
</tr>
<tr>
<td>all</td>
<td>63319</td>
<td>0.8 (0.7 – 1.0)</td>
<td>1 [Reference]</td>
<td></td>
<td>1 [Reference]</td>
<td></td>
</tr>
<tr>
<td>Unilateral mastectomy</td>
<td>19515</td>
<td>1.3 (1.1 – 1.5)</td>
<td>1.45 (1.18 – 1.79)</td>
<td>&lt; 0.001</td>
<td>1.20 (0.96 – 1.50)</td>
<td>0.11</td>
</tr>
</tbody>
</table>

\(^3\) adjusted for year of diagnosis, age of diagnosis, ethnicity, income, ER-status, tumor size and grade
# Decreasing Recurrence Rates for Ductal Carcinoma In Situ: Analysis of 2996 Women Treated with Breast-Conserving Surgery Over 30 Years

Preeti Subbedar, MD\(^1\), Cristina Olcese, BS\(^1\), Sujata Patil, PhD\(^2\), Monica Morrow, MD, FACS\(^1\), and Kimberly J. Van Zee, MS, MD, FACS\(^1\)

## Breast Conserving Surgery Alone

<table>
<thead>
<tr>
<th>Time period</th>
<th>5 year</th>
<th>10 year</th>
<th>HR</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978-1998</td>
<td>19.1% (15.6 - 23.2%)</td>
<td>26% (22.0 - 30.7%)</td>
<td>1.0</td>
<td>----</td>
</tr>
<tr>
<td>1999-2010</td>
<td>8.9% (7.1 - 11.3%)</td>
<td>19% (14.9 – 23.1%)</td>
<td>0.59</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

## Breast Conserving Surgery and Radiotherapy

<table>
<thead>
<tr>
<th>Time period</th>
<th>5 year</th>
<th>10 year</th>
<th>HR</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978-1998</td>
<td>6.4% (4.1 - 9.8 %)</td>
<td>13% (9.3 - 17.1 %)</td>
<td>1.0</td>
<td>----</td>
</tr>
<tr>
<td>1999-2010</td>
<td>4.9% (3.7 – 6.5 %)</td>
<td>11% (8.7- 14.2 %)</td>
<td>0.84</td>
<td>0.04</td>
</tr>
</tbody>
</table>
General Therapeutic Principles

Surgical excision (BCS, Mastectomy) is the therapeutic basis for the treatment of DCIS.

Adjuvant treatment (radiotherapy, endocrine treatment) must be discussed with the patient individually. Disadvantages must be balanced against risk reduction.
Surgical Treatment for Histologically Proven DCIS I

- Excisional biopsy (wire guided)  
  Oxford / AGO LoE / GR  
  2b  B  ++

- Bracketing wire localization in large lesions  
  5  D  +

- Specimen radiography  
  2b  B  ++

- Intraoperative ultrasound  
  (visible lesion)  
  3a  C  +/-

- Immediate re-excision for close margins  
  (specimen radiography)  
  1c  B  ++

- Intraoperative frozen section  
  5  D  --

- Interdisciplinary board presentation  
  2b  C  ++

Open biopsy in suspicious lesions (mammographical microcalcifications, suspicious US, MRI etc.) without preoperative needle biopsy should be avoided.
**Surgical Treatment for Histologically Proven DCIS II**

- Histologically clear margins (R0)
- Multifocal DCIS: BCS if feasible
- Re-excision required for close margin \( \leq 2 \text{ mm in paraffin section} \)
- **Mastectomy**
  - Large lesions confirmed by multiple biopsies; no clear margins after re-excision
- **SNE**
  - BCS
  - Mastectomy
  - In case of DCIS in the male breast
- **ALND**

* Patients who present with a palpable mass have a significantly higher potential for occult invasion (26%), multicentricity and local recurrence.
## DCIS – Prognostic Factors for the Incidence of Ipsilateral Recurrence

<table>
<thead>
<tr>
<th>Factor</th>
<th>Oxford / AGO LoE / GR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resection margins</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Residual tumor-associated microcalcification</td>
<td>2b C ++</td>
</tr>
<tr>
<td>Age</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Size</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Grading</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Comedo necrosis</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Architecture</td>
<td>2b C +</td>
</tr>
<tr>
<td>Method of diagnosis</td>
<td>1a A ++</td>
</tr>
<tr>
<td>Focality</td>
<td>1a A ++</td>
</tr>
<tr>
<td>(mod.) Van Nuys Prognostic Index</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>Palpable DCIS</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>Palpable + COX-2+, p16+, Ki-67+</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>Palpable + ER-, HER2+, Ki-67+</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>HER2/neu (positive vs. negative)</td>
<td>1a B +/-</td>
</tr>
<tr>
<td>ER/PgR (positive vs. negative)</td>
<td>1a B +/-</td>
</tr>
<tr>
<td>DCIS-Score</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>MSKCC Nomogram</td>
<td>2b C +/-</td>
</tr>
<tr>
<td>DCIS with microinvasion – treatment in analogy to invasive breast cancer</td>
<td>3b C ++</td>
</tr>
<tr>
<td>Intrinsic subtypes (luminal A, B, HER2+, triple negative)</td>
<td>2b C -</td>
</tr>
</tbody>
</table>
Radiotherapy Statements

- Radiotherapy has no impact on survival  
  LOE 1a

- Radiotherapy reduces the risk of ipsilateral (invasive and non invasive) recurrences by 50 %  
  LOE 1a

- Avoidance of invasive recurrence is probably not associated with survival benefit  
  LOE 2b

- The absolute (individual) benefit of radiotherapy depends on the individual risk of local recurrence

- The number needed to treat (for any breast event) is 9 (over all risk groups)
DCIS Radiotherapy

Radiotherapy after:
- Breast conserving surgery (BCS)
- Mastectomy

Modality:
- Partial breast radiotherapy (PBI)
- Hypofractionated radiotherapy regimens
- Radiotherapy boost on the tumor bed
  - Women younger than 45-50 years

Oxford / AGO LoE / GR

- 1a A +*
- 2b B --
- 3a D --
- 2b D -/+**
- 2b D --
- 2b C +/-

* Side effects and disadvantages of radiotherapy must be balanced against risk reduction. Omitting radiotherapy implies elevated risk for local recurrence without effect for overall survival even in the subset of „good risk“ patients. There remains a lack of level-1 evidence supporting the omission of adjuvant radiotherapy in selected low-risk cases: < 2.5 cm, low and intermediate nuclear grade, mammographically detected

** Analysis in ongoing trials
Cochrane Analysis
Radiation after Surgery (all/with Radiation after Breast Conserving Surgery)

Goodwin A, Parker S, Ghersi D, Wilcken N.
DCIS Postoperative Systemic Treatment - Statements

- Postoperative endocrine treatment has no impact on survival
- Postoperative endocrine treatment may have a small effect on ipsilateral invasive recurrences
- Endocrine treatment for DCIS has an effect on contralateral invasive cancer and ipsilateral and contralateral DCIS
- The number needed to treat for any breast event is 15

LOE 1a
Cochrane Analysis
Tamoxifen after DCIS (all/with Radiation)

Staley H, McCallum I, Bruce J.
Postoperative tamoxifen for ductal carcinoma in situ.

DCIS Postoperative Systemic Treatment

- Tamoxifen (only ER+)
- Aromatase inhibitor (only ER+) in postmenopausal women only
- Trastuzumab (only Her2+)

Indication for treatment depends on risk factors, side effects and patient preference
Local Recurrence of DCIS after Tumorectomy w/o Irradiation

After radiation

- Simple mastectomy
  + SNB

- Second tumorectomy
  is followed by recurrences in up to 30% of patients (NSABP B17)

No radiation after first tumorectomy

- Treatment like primary disease

Prognosis for invasive recurrences seems to be better than for primary invasive breast cancer. About 50% of recurrences are invasive.
Ductal Carcinoma in Situ (DCIS) (2/24)

No further information

No references
Pretherapeutic Assessment in Suspicious Lesions (BIRADS 4) (3/24)

Further information:

Alle Abstimmungen mit 100% Zustimmung

References:

Mammographie
Vergrößerungsaufnahmen von Mikroverkalkungen
Steigerung der Detektionsrate von G1/G2 DCIS durch digitale Mammographie (versus konventionell)


**Stereotaktische Stanziobiopsie / Vakuumbiopsie (VAB)**


**Präparateradiographie**

Setzen eines Markierungsclips in der Biopsieregion, wenn die Läsion komplett entfernt wurde

**MRT zur Festlegung der Ausdehnung**

Klinische Untersuchung
Feinnadelpunktion / duktale Lavage
Interdisziplinäre Tumorboard-Präsentation
MRT and DCIS (4/24)

No further information

No references
MRI and DCIS (5/24-10/24)

No further information

No references
Breast Cancer Mortality After a Diagnosis of Ductal Carcinoma In Situ (11/24-12/24)

No further information

References:

1. Steven A. Narod, MD, FRCP; Javaid Iqbal, MD; Vasily Giannakeas, MPH; Victoria Sopik, MSc; Ping Sun, PhD; JAMA Oncol. doi:10.1001/jamaoncol.2015.2510 Published online August 20, 2015.
Decreasing Recurrence Rates for Ductal Carcinoma In Situ: Analysis of 2996 Women Treated with Breast-Conserving Surgery Over 30 Years (13/24)

No further information

Reference:

1. Preeti Subhedar, MD1, Cristina Olcese, BS1, Sujata Patil, PhD2, Monica Morrow, MD, FACS1, and Kimberly J. Van Zee, MS, MD, FACS1; Ann Surg Oncol (2015) 22:3273–3281
**General Therapeutic Principles (14/24)**

*Further information:*

Alle Abstimmungen mit 100% Zustimmung.

*References:*

5. Laura Esserman, Christina Yau. Rethinking the Standard for Ductal Carcinoma In Situ Treatment. JAMA Oncology Published online August 20, 2015.
Surgical Treatment for Histologically Proven DCIS I (15/34)

Further information:
Alle Abstimmungen mit 100% Zustimmung

References:
Exzision (drahtmarkiert)


Flankierende Drahtmarkierung bei großen Läsionen
Präparatradiographie
Intraoperative Sonographie (darstellbarer Befund)

Sofortige Nachresektion bei knappen Resektionsrändern (Präparateradiographie)


Intraoperative Schnellschnittdiagnostik
Interdisziplinäre Tumorboard-Präsentation
Surgical Treatment for Histologically Proven DCIS II (16/24)

Further information:

Alle Abstimmungen mit 100% Zustimmung

References:

Histologisch freie Resektionsränder (pR0)

Multifokalität: BET falls möglich (inkl. RT)


Nachresektion bei knappem Resektionsrand (< 2 mm im Paraffinschnitt)


Mastektomie* (große Läsionen; keine sicheren Ränder im Nachresektat)


SNE*
Mastektomie
DCIS beim Mann


BET


Axilladissektion
DCIS – Prognostic Factors for the Incidence of Ipsilateral (17/24)

No further information

References:

Resektionsränder
Residualer tumorassoziierter Mikrokalk
Alter
Größe
Grading
Komedonekrose
Architektur


Diagnostische Methode

1. Han JS, Molberg KH, Sarode V. Predictors of Invasion and Axillary Lymph Node Metastasis in Patients with a Core Biopsy Diagnosis of Ductal carcinoma In Situ: An Analysis of 255 Cases. The Breast Journal 2011; 17: 223-229

Fokalität


(mod.) Van Nuys Prognose Index und MSKCC Nomogramm

7. Silverstein MJ, Lagios MD. Choosing Treatment for Patients With Ductal Carcinoma In Situ: Fine Tuning the University of Southern california/Van Nuys Prognostic Index. J natl Cancer Inst Monogr 2010; 41: 193-196

**Palpables DCIS**
- Palpabel + COX-2+p16+Ki-67+
- Palpabel + ER-, HER2, +Ki-67+

**HER2-Überexpression**
| ER/PgR (positiv vs. negativ) |

**DCIS-Score**

2. Sarah Patricia Cate, Alyssa Gillego, Manjeet Chadha, John Rescigno, Paul R. Gliedman, Ilana Kats, Susan K. Booolbol. Does the Oncotype DCIS score impact treatment decisions? J Clin Oncol 31, 2013 (suppl 26; abstr 91)
ductal carcinoma in situ patients with and without irradiation. SABCS 2015. S5-04


DCIS mit Mikroinvasion – Behandlung analog zum invasiven Karzinom


Intrinsische Subgruppen (Luminal A,B, HER+, triple negativ)


Radiotherapy Statements (18/24)

*Further information:*

Alle Abstimmungen mit 100% Zustimmung

*References:*

See next slides
DCIS Radiotherapy (19/24)

Further information:
Alle Abstimmungen mit 100% Zustimmung.

References:
Radiotherapie nach:
Brusterhaltender Operation (BEO) (gesamte Brust, WBI)

10. Schwartz GF, Solin LJ, Olivotto IA, Ernster VL, Pressman PI.
12. Impact of pathological characteristics on local relapse after breast-conserving therapy: a subgroup analysis of the EORTC boost versus no boost trial.


34. Australian New Zealand Clinical Trials Registry website. The Trans Tasman Radiation Oncology Group (TROG) 07.01: A randomised phase III study of radiodoses and fractionation schedules in non-low risk Ductal Carcinoma In
Mastektomie


Sonderformen der Radiotherapie: Teilbrustbestrahlung

10. John Paul Einck, Steven E. Finkelstein, Ben Han, Robert Hong, Lydia T. Komarnicky, Robert R. Kuske, Sudha B. Mahalingam, Constantine Mantz, Serban Morcovescu, Stephen S. Nigh, Kerri L. Perry, Jondavid Pollock, Jay E. Reiff, Daniel Scanderbeg, Jon F. Strasser, Catheryn M. Yashar, SAVI Collaborative Research Group; Department of Radiation Medicine and Applied Sciences, University of California, San Diego, La Jolla, CA; 21st Century Oncology of Arizona, Translational Research Center, Scottsdale, AZ; South Florida Radiation Oncology, LLC, Boynton Beach, FL; Virginia Hospital Center, Arlington, VA; Drexel University College of Medicine, Philadelphia, PA; Arizona Breast Cancer Specialists, Scottsdale, AZ; The Christ Hospital Cancer Center, Cincinatti, OH; 21st Century Oncology, Translational Research Consortium (TRC), Fort Myers, FL; Texas Oncology, Denton, TX; Northwest Community Hospital Cancer Services, Arlington Heights, IL; Kerri Perry, MD, Denton, TX; Schiffler Cancer Center, Wheeling, WV; Helen F. Graham Cancer Center - Christiana Care Health System, Newark, DE. Accelerated partial-breast irradiation using strut-based brachytherapy in ductal carcinoma in situ patients: A report on 321 patients with median 25-month follow-up. J Clin Oncol 31, 2013 (suppl 26; abstr 92)
Hypofraktionierte Radiotherapie


Boost-RT des Tumorbettes


Bei Patientinnen unter 45-50 Jahren
Cochrane Analysis – Radiation after Surgery (20/24)

No further information

No references
No further information

References:

See next slides
Cochrane Analysis - Tamoxifen after DCIS (all/with radiation) (22/24)

No further information

Reference:

DCIS Postoperative Systemic Treatment (23/24)

Further information:

Alle Abstimmungen mit 100% Zustimmung

References:

Tamoxifen (nur ER+, nur BET)


AI (wenn postmenopausal und Kontraindikationen gegen Tamoxifen)
Andere endokrine Optionen Trastuzumab (nur HER2+)


Local Recurrence of DCIS after Tumorectomy w/o Irradiation (24/24)

Further information and references:

Abstimmung:
Lokalrezidiv des DCIS nach Tumorektomie nach Radiatio:

Einfache Mastektomie
++  4/19;
+   15/19

Einfache Mastektomie + SNB:
++  3/22
+   14/22
+/- 3/22
-   2/22
--  0/22

Lokalrezidiv des DCIS nach Tumorektomie mit Radiotherapie

Therapieindikation wie bei primärer Erkrankung:
++  10/21
+   7/21
+/- 1/21
-   1/21
--  2/21
Nach Radiatio
Einfache Mastektomie
+ SN B


Sekundäre Tumorektomie führt zu Rezidiven in bis zu 30 % der Fälle (NSABP B17)


Keine Radiotherapie
Therapieindikation wie bei primär Erkrankung