

The Breast Cancer Patient: Staging and Surveillance

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Baylor Scott & White

Extent of Disease with MR

- best at lesion size
 - finds mammo / sono occult tumors
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Extent of Disease with MR

- Add'l lesions 16-20%
 - Occult primary search: 70%
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Extent of Disease with MR

- accurate tumor size
- occult tumor depiction
- skin, nipple lesions
- chest wall, pectoralis evaluation

Accurate Staging

Extent of Disease with MR

- contralateral surveillance
 - synchronous CBC 4%
 - metachronous CBC - decreased
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Extent of Disease with MR

- Accurate staging
 - Contralateral surveillance
 - Neoadjuvant chemotherapy (NAC)
 - MR useful
 - better than mammo or clinical eval; ?US
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Summary: Extent of Disease with MR

- Accurate staging
- Contralateral surveillance
- Useful in NAC setting

Staging & Surveillance

- Extent of disease
 - **Outcomes**
 - Gaps in Knowledge
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Outcomes

- Survival
- IBTR (Ipsilateral breast tumor recurrence)
- Surgical impact

IBTR

- 2014 meta-analysis; N=3169
- 4 studies with individual data

	with MR	without MR
Local Recurrence	1.8%	2.2%
8yr LR-free survival	97%	95%

Houssami et al. 2014 J Clin Oncol

IBTR

- no benefit for MR so far
- data is sparse
- follow up times are very short

Outcomes

- Survival
- IBTR: no evidence yet; long term evaluation not available
- Surgical impact

MR: Surgical Impact

2008 meta-analysis

19 studies, N=2610

No RCT studies

Many without MR biopsy available

Houssami et al. J Clin Oncol

MR: Surgical Impact

2013 meta-analysis

9 studies, N=3112

2 RCT studies

7 comparative analyses

2009-2012

Houssami et al. Ann Surg

MR: Surgical Impact

2013 meta-analysis

9 studies, N=3112

	MR	noMR	p	OR
initial mastectomy	16%	8%	0.001	3.1
re-excision after BCS	11.6	11.4	-	0.95
overall mastectomy	25.5	18.2	<0.001	1.5

Houssami et al. Ann Surg

MR: Surgical Impact

- Pre 2013 data shows re-excision rates not effected by MR
- Newer data is more promising

MR: Surgical Impact

2013 Obdeijn et al.

Use of preOp MR N=123 consecutive patients

	MR	no MR	p
positive margins	15.8%	29.3%	<0.01
re-operation rate	18.9%	37.4%	<0.01

Obdeijn et al. AJR 2013

MR: Surgical Impact

2014 Sung et al.

Use of preOp MR N=348

	MR	no MR	p
re-excision rate	29%	45%	0.02

Sung et al. AJR 2014

MR: Surgical Impact

2014 Fortune-Greeley et al.
population based (SEER-Medicare)
N=20,332 ILC=1928

MR = 40% reduction in re-operation rate for ILC
MR = without increasing mastectomy for ILC

Fortune-Greeley et al. 2014 Br Cancer Res Treat

MR: Surgical Impact

- Most data: no change in re-excision rates
- Emerging evidence of decrease in re-excision or re-operation with MR
- Mastectomy rate increases with MR

Summary: MR for Staging & Surveillance

- Extent of disease evaluation
 - accurate with use of MR biopsy
 - benefit from contralateral surveillance

Summary: MR for Staging & Surveillance

- Outcomes
 - no survival benefit
 - IBTR: longer, larger studies needed
 - surgical impact: emerging evidence on re-excision benefit; mastectomy ↑

Summary: MR for Staging & Surveillance

- Knowledge Gaps
 - we lack full understanding of the impact of MR detected disease
 - currently driven by outcomes of other disciplines
 - well designed, imaging based studies must be done to obtain useful, applicable data