Standardised Reporting of Breast MRI Scans in Patients Undergoing Neoadjuvant Chemotherapy

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Background

Imaging has a vital role in guiding the management of breast cancer patients. Breast MRI scans are increasingly being performed to determine disease pattern and extent, and to monitor tumour response to neoadjuvant chemotherapy.

A recent departmental audit revealed that the information conveyed by radiologists could vary in style and emphasis leading to potentially unclear conclusions. It is important that any ambiguity be eliminated at the reporting stage to provide a clear message to our clinical colleagues.

It is proposed that a standardised reporting proforma would facilitate this process.

Our aim is to standardise the reporting of breast MRI in patients who undergo neoadjuvant chemotherapy for breast carcinoma.

This will aid further patient management by providing clear and concise information and also allow retrospective and prospective audit.

NEOADJUVANT CHEMOTHERAPY PROFORMA

Name: **PMI No.:**

Date of Birth: **Date of Scan:**

TRIPLE ASSESSMENT

Unifocal Diffusely infiltrating Multifocal

LN + ve LN - ve

MRI SCAN 1 : BASELINE / BASELINE + 1

Pattern of disease	Unifocal	Diffuse	Multifocal
Size of dominant mass			
Extent			
Curve Type			
LN size			

MRI SCAN 2 : POST 2 / POST 3

Size of dominant mass

Extent

Assessment of response:	Extent	>	=	<
	Bulk	>	=	<
	Activity	>	=	<

Response: Progression
Stable
Minimal response
Partial response*
Almost complete

Treatment advised:	Chemotherapy	Continue	Change
	Surgery	WLE	Mx
	Marker clip	Yes	No

MRI SCAN 3: POST 6 (FINAL) / POST 2 + 2 (CHANGED) POST 4 (NO CHANGE) / OTHER

Size of dominant mass

Exent

Assessment of response:	Extent	>	=	<
	Bulk	>	=	<
	Activity	>	=	<

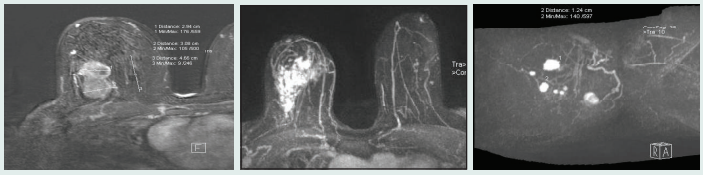
Response: Progression
Stable
Minimal response
Partial response*
Almost complete

Treatment advised: WLE Mx

In line with RECIST (Response Evaluation Criteria of Solid Tumours) but also specific to assessment of local disease in the breast.

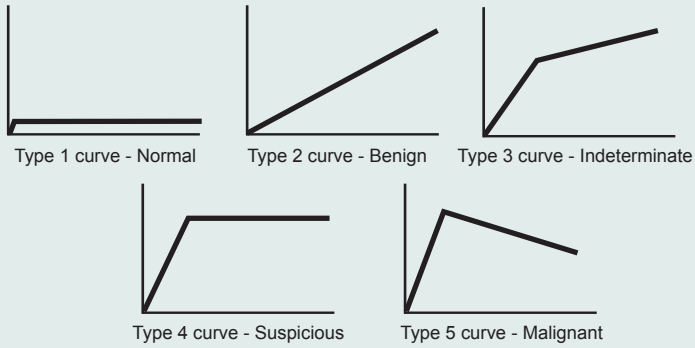
We record: 1. tumour pattern, 2. bulk (size of dominant mass), 3. extent, 4. activity (curves), 5. lymph node size

Pattern of Disease



Unifocal Diffuse Multifocal

Tumour Activity Curves



Type 1 curve - Normal
Type 2 curve - Benign
Type 3 curve - Indeterminate
Type 4 curve - Suspicious
Type 5 curve - Malignant

Categorisation of Response

Progression of disease	Change Rx
No response	
Minimal response	
Partial response*	No change in Rx
'Almost complete response'	
Complete response	

*Partial: >50% reduction in diameter of main mass
25-50% reduction in main mass + improved enhancement curve

Surgical Treatment

- Discussed and documented at MDT meeting.
- Team decision involving surgeons, oncologists, radiologists and breast care nurses.
- Imaging advice is based on MAMMOGRAPHY (microcalcifications) + MRI.

MRI 3

- Performed at the end of treatment if focal tumour responding well to chemotherapy and breast conservation planned.
- Perfomed POST 2 cycles of 2nd line chemotherapy in non responders.
- End of treatment scan often omitted now surgical decisions made earlier.

Conclusions

Internal audit has highlighted inconsistencies in breast MRI reporting for patients undergoing neoadjuvant chemotherapy.

We have identified key facts required for a report to convey a clear and consistent message to radiology colleagues and clinicians.

The above proforma has been specifically designed to convey this information in a standardised manner.

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